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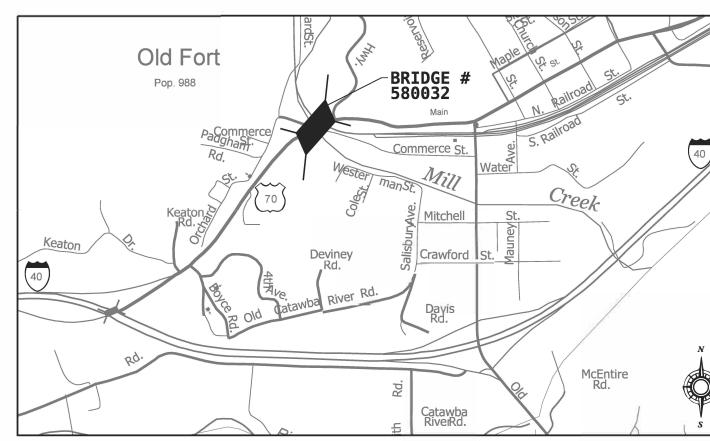
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STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

MCDOWELL COUNTY

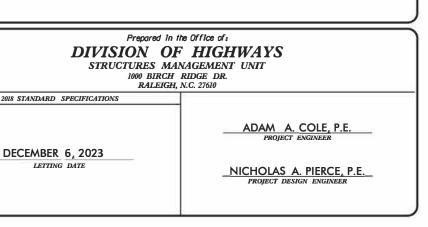
BRIDGE #580032 ON US70 OVER SRIII6, SOUTHERN RAILROAD AND MILL CREEK **LOCATION:**

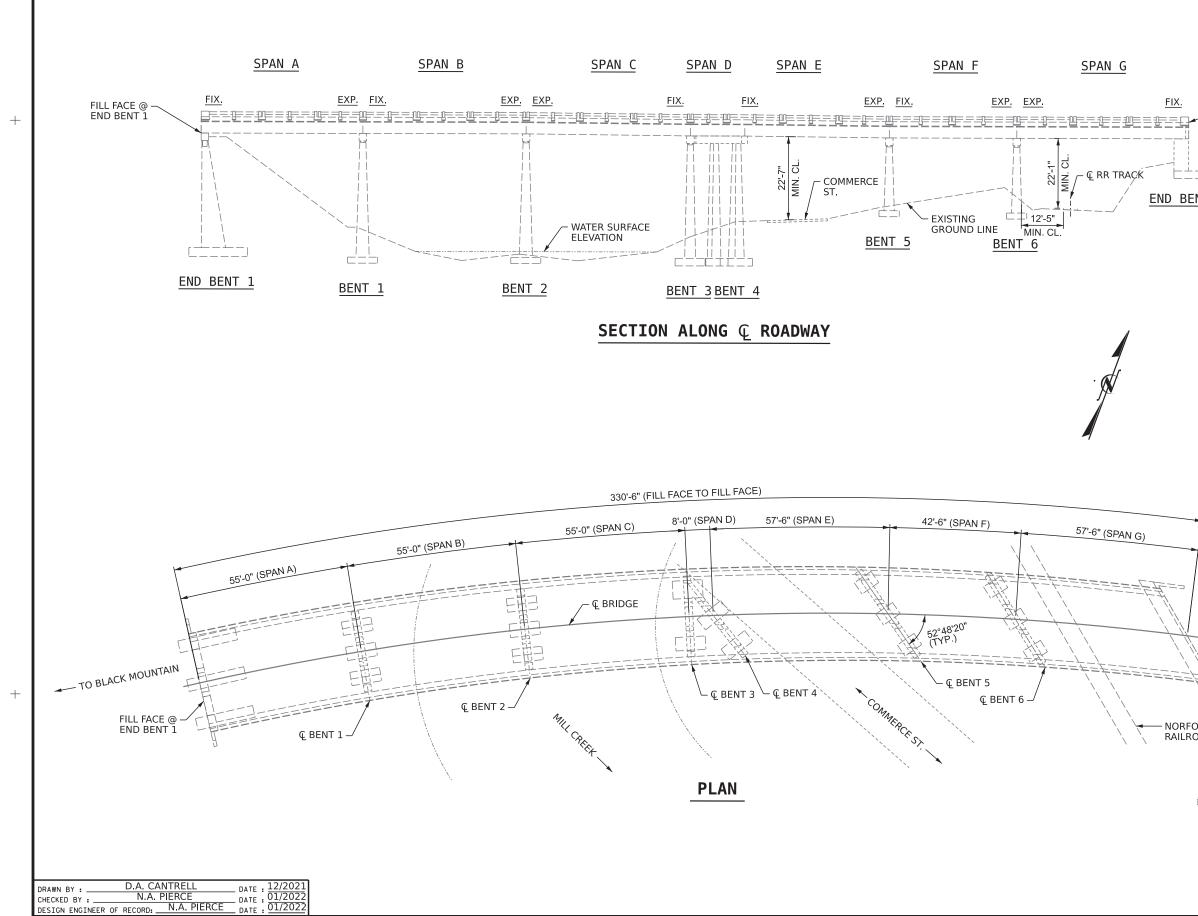
TYPE OF WORK: BRIDGE PRESERVATION - LATEX MODIFIED CONCRETE OVERLAY, JOINT REPLACEMENT, BRIDGE JACKING, SUBSTRUCTURE REPAIRS, REINFORCED CONCRETE GIRDER REPAIRS, AND EPOXY COATING.



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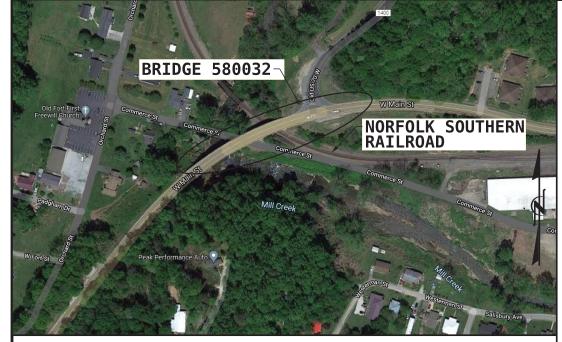
STATE	STATE PROJECT REFERENCE NO.			TOTAL SHEETS	
N.C.	410	1	36		
STATE PROJ.NO.		F. A. PROJ. NO.	DESCRUPT	NON	
41665	14B		P.E.		
41665.14B		() - (CONS	ST.	
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3/15/2022 St/DEV/Squad_D/Misc Projects/580032_CriticalFind Repair/401_001_SMU_GD01_S1-01_580032.dgn napierce

	NOTES
	GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 12/9/2021.
	BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS/ROUTINE INSPECTION.
	SCOPE OF WORK
	REMOVE ASPHALT WEARING SURFACE AND PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND HYDRO- DEMOLITION.
FILL FACE @ ABUTMENT 2	OVERLAY PREPARED TOP OF BRIDGE DECK WITH LATEX MODIFIED CONCRETE (LMC).
	REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.
	GROOVE LMC BRIDGE DECK.
ENT 2	MILL AND REPAVE ASPHALT APPROACH ROADWAYS.
	JACK BRIDGE.
	REPAIR CONCRETE DECK GIRDERS.
	CLEAN AND EPOXY COAT EXISTING REINFORCED CONCRETE DECK GIRDER ENDS.
	REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.
	PROPERLY PREPARE SPALLED AREAS IN EXISTING END BENT AND BENTS AND PERFORM SHOTCRETE AND CONCRETE REPAIRS.
	REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY EPOXY
	COATING.
	Y THAT THIS STRTUCTURE WAS REHABILITATED THESE PLANS OR AS NOTED HEREIN.
RESIDENT ENGI	NEER DATE
FILL FACE @ ABUTMENT 2	
TO PROVIDENCE	PROJECT NO. 41665.14B
	MCDOWELL COUNTY
	BRIDGE NO. <u>580032</u>
FOLK SOUTHERN ROAD	SHEET 1 OF 2 NSRR MILE POST 111.42
WITH CAROLAND WITH CAROLAND	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
	GENERAL DRAWING
35647 Z 037479 /	FOR BRIDGE ON US70 OVER SR1116 (COMMERCE ST.)
A COMMA COMMENT	
DocuSigned by: DocuSigned by: Nicholas Pa	NS RAILROAD AND
SEAL 35647 December 40 03/15/2022	NS RAILROAD AND MILL CREEK
	REVISIONS SHEET NO. REVISIONS SHEET NO. REVISIONS SHEET NO. ST-O1 SHEET NO. SHEET N



BRIDGE 580032 LOCATION SKETCH

BRIDGE COORDINATES						
BRIDGE No.	LATITUDE	LONGITUDE				
580032	35°-37'-43.94"	82°-11'-13.71"				

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THERE ARE HIGH VOLTAGE POWER AND OTHER UTILITY LINES NEAR THE PROPOSED WORK AREA.

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DUE TO THE NATURE OF PRESERVATION PROJECTS, THE EXTENT OF WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFFR.

THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT FOR ANY DELAYS OF ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN WHAT IS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

WORK ON THE BRIDGE(S) SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR'S PLAN USE PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY PART OF THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE, THE DAMAGED AREA SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT

ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.

PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.

NOTES

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS. FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS. FOR CRANE SAFETY, SEE SPECIAL PROVISIONS. FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS. FOR LATEX MODIFIED CONCRETE AND PLACING AND FINISHING OF LATEX MODIFIED CONCRETE, SEE SPECIAL

PROVISIONS

FOR HYDRO-DEMOLITION, SCARIFYING BRIDGE DECK, CLASS II AND CLASS III SURFACE PREPARATION, SEE LMC OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

THE RAILROAD TRACK TOP OF RAIL TO BOTTOM OF BEAM VERTICAL CLEARANCES ON THE PLANS ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE TOP OF RAIL TO BOTTOM OF BEAM CLEARANCES AND REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) LISTED WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING ITEM(S) LISTED, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN THE PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED. UNANTICIPATED ITEMS:

ITEM DESCRIPTION

TYPE I BRIDGE JACKING EPOXY RESIN INJECTIO

BRIDGE No.	INCIDENTAL MILLING	ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B	ASPHALT BINDER PLANT MIX	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	CLASS III SURFACE PREPARATION	LATEX MODIFIED CONCRETE OVERLAY	PLACING & FINISHING OF LATEX MODIFIED CONCRETE	CONCRETE REPAIRS	SHOTCRETE REPAIRS
	SQ.YDS.	TON	TON	SQ.FT.	SQ.YDS.	SQ.YDS.	CU.YDS.	SQ.YDS.	CU.FT.	CU.FT.
580032	667.0	60.0	5.0	8125.5	9.7	36.6	71.4	1028.2	100.2	807.5
TOTAL	667.0	60.0	5.0	8125.5	9.7	36.6	71.4	1028.2	100.2	807.5

BRIDGE No.	VOLUMETRIC MIXER	FOAM JOINT SEALS FOR PRESERVATION	ELASTOMERIC CONCRETE FOR PRESERVATION	REPAIRS TO CONCRETE GIRDERS	BRIDGE JOINT DEMOLITION	EPOXY COATING	EPOXY COATING CONCRETE GIRDER ENDS	HYDRO- DEMOLITION OF BRIDGE DECK	SCARIFYING BRIDGE DECK	TYPE II BRIDGE JACKING BRIDGE #
	LUMP SUM	LIN.FT.	CU.FT.	CU.FT.	SQ.FT.	SQ.FT.	SQ.FT.	SQ.YDS.	SQ.YDS.	EACH
580032	LUMP SUM	200.5	50.4	158.5	336	979	258	1028.2	1028.2	1
TOTAL	LUMP SUM	200.5	50.4	158.5	336	979	258	1028.2	1028.2	1

DRAWN BY :	N.A. PIERCE	DATE : 12/202
CHECKED BY :	B.L. GREEN	DATE : 02/202
DESIGN ENGINEER	OF RECORD: N.A. PIERCE	DATE : 01/202

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FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR CONCRETE GIRDER REPAIRS, SEE SPECIAL PROVISIONS

FOR EPOXY COATING CONCRETE GIRDER ENDS, SEE SPECIAL PROVISIONS.

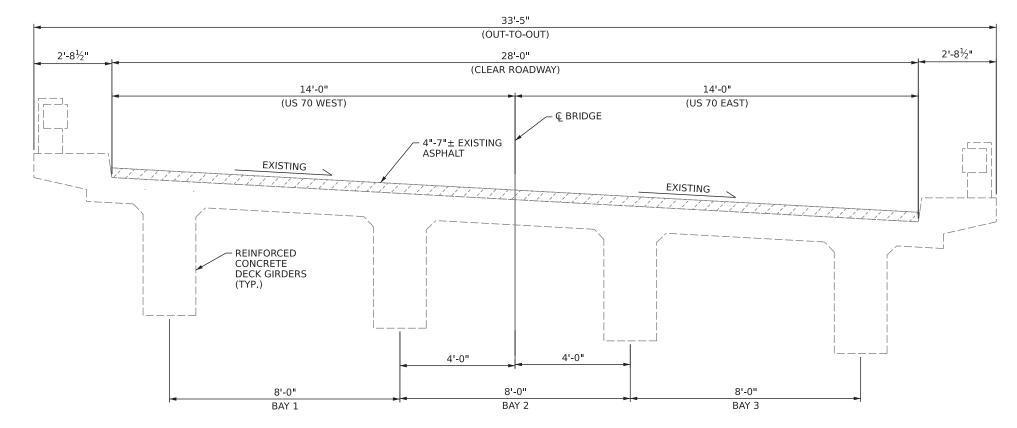
FOR TYPE II BRIDGE JACKING, SEE SPECIAL PROVISIONS

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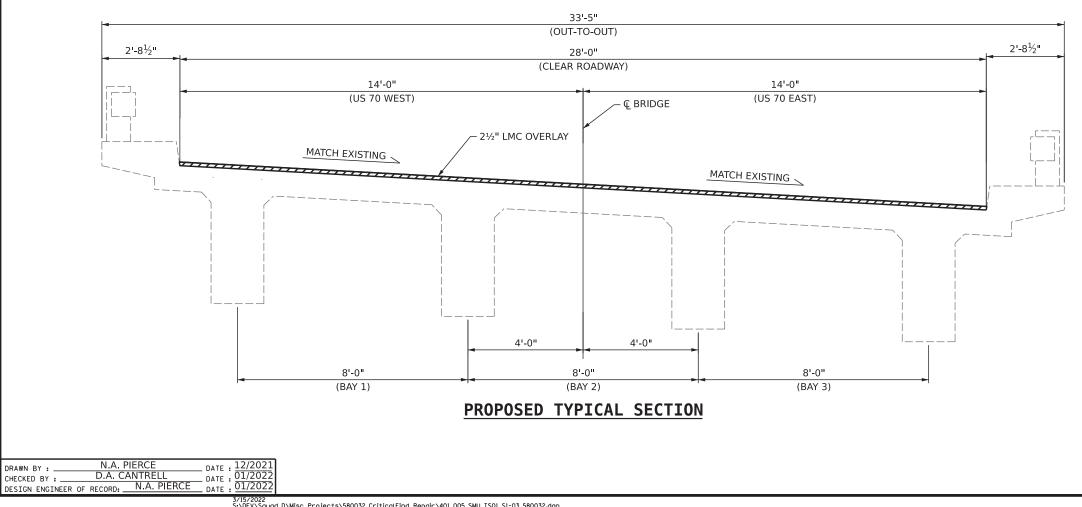
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UNIT

PROJECT NO. <u>41665.14B</u> <u>MCDOWELL</u> COUNTY
BRIDGE NO. 580032
SHEET 2 OF 2
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
GENERAL DRAWING FOR BRIDGE ON US70 OVER SR1116 (COMMERCE ST.),
NS RÀILROAD AND MILL CREEK
REVISIONS SHEET NO.
NO. BY: DATE: NO. BY: DATE: S1-02
1 3 Joint Streets 34



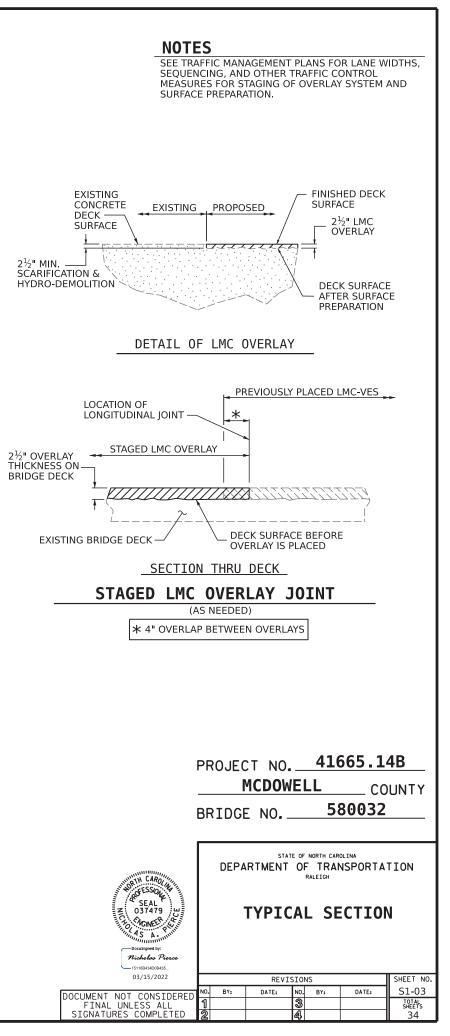
EXISTING TYPICAL SECTION

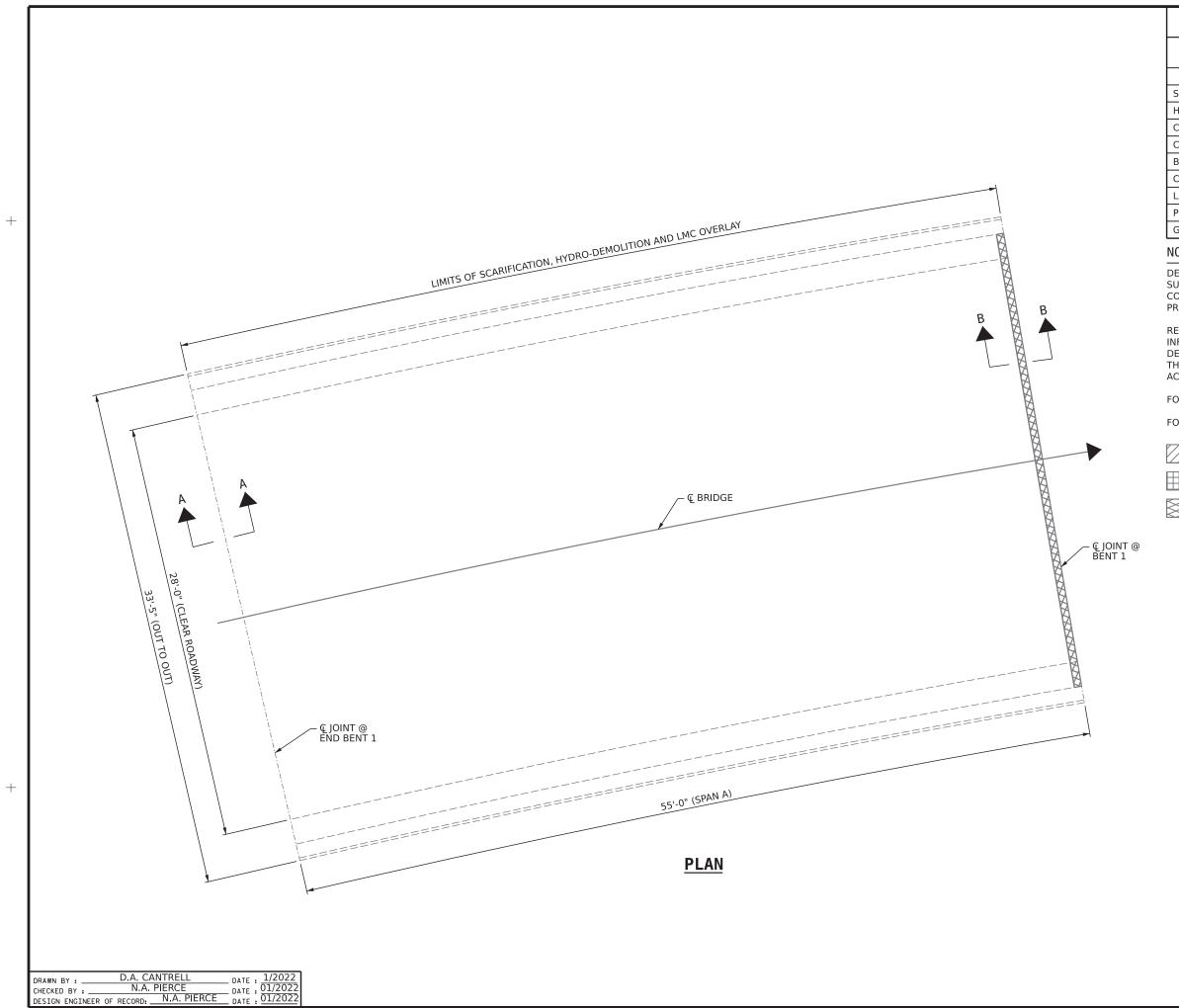


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AS-BUILT REPAIR QUANTITY TABLE

DECK SURFACE REPAIR - SPAN A

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	171.1 SQ.YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	171.1 SQ.YDS.	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
BRIDGE JOINT DEMOLITION	28.0 SQ.FT.	
CONCRETE FOR DECK REPAIR	-	
LATEX MODIFIED CONCRETE OVERLAY	11.9 CU.YDS.	
PLACING AND FINISHING LMC OVERLAY	171.1 SQ.YDS.	
GROOVING BRIDGE FLOORS	1363.0 SQ.FT.	

NOTES

DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR "CONCRETE FOR DECK REPAIR", SEE SPECIAL PROVISIONS.

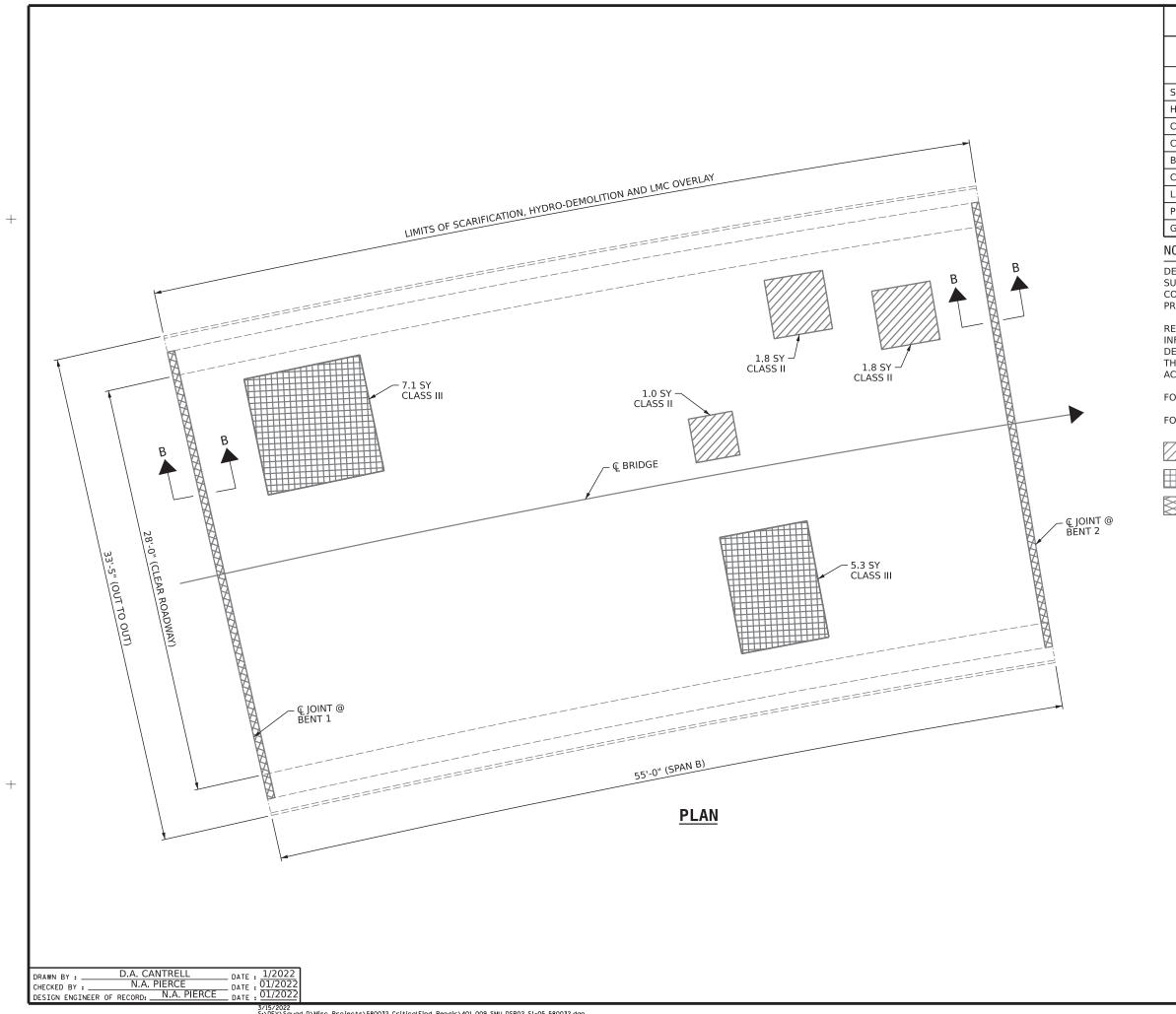
FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

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CLASS II SURFACE PREPARATION

CLASS III SURFACE PREPARATION

	PROJEC	CT NO.	41	665.1	4B	
		1CDO W	ELL	CC)UNT Y	
	BRIDG	E NO	5	80032		
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AND THE CAROLINE	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEICH					
Z (SEAL 037479) UN 45 A .	DE		RFACE Span	E REP/ A	AIR	
DocuSigned by: <i>Richolos Pierce</i> 15110B434D0B485						
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5/15/2022 St/DEV/Squad_D/Misc Projects/580032_CriticalFind Repair/401_009_SMU_DSR02_S1-05_580032.dgn napierce

AS-BUILT REPAIR QUANTITY TABLE

DECK SURFACE REPAIR - SPAN B

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	171.1 SQ.YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	171.1 SQ.YDS.	
CLASS II SURFACE PREPARATION	4.6 SQ.YDS.	
CLASS III SURFACE PREPARATION	12.4 SQ.YDS.	
BRIDGE JOINT DEMOLITION	56.0 SQ.FT.	
CONCRETE FOR DECK REPAIR	60.7 CU.FT.	
LATEX MODIFIED CONCRETE OVERLAY	11.9 SQ.YDS.	
PLACING AND FINISHING LMC OVERLAY	171.1 SQ.YDS.	
GROOVING BRIDGE FLOORS	1350 SQ.FT.	
GROOVING BRIDGE FLOORS	1350 SQ FT	

NOTES

DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.

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FOR "CONCRETE FOR DECK REPAIR", SEE SPECIAL PROVISIONS.

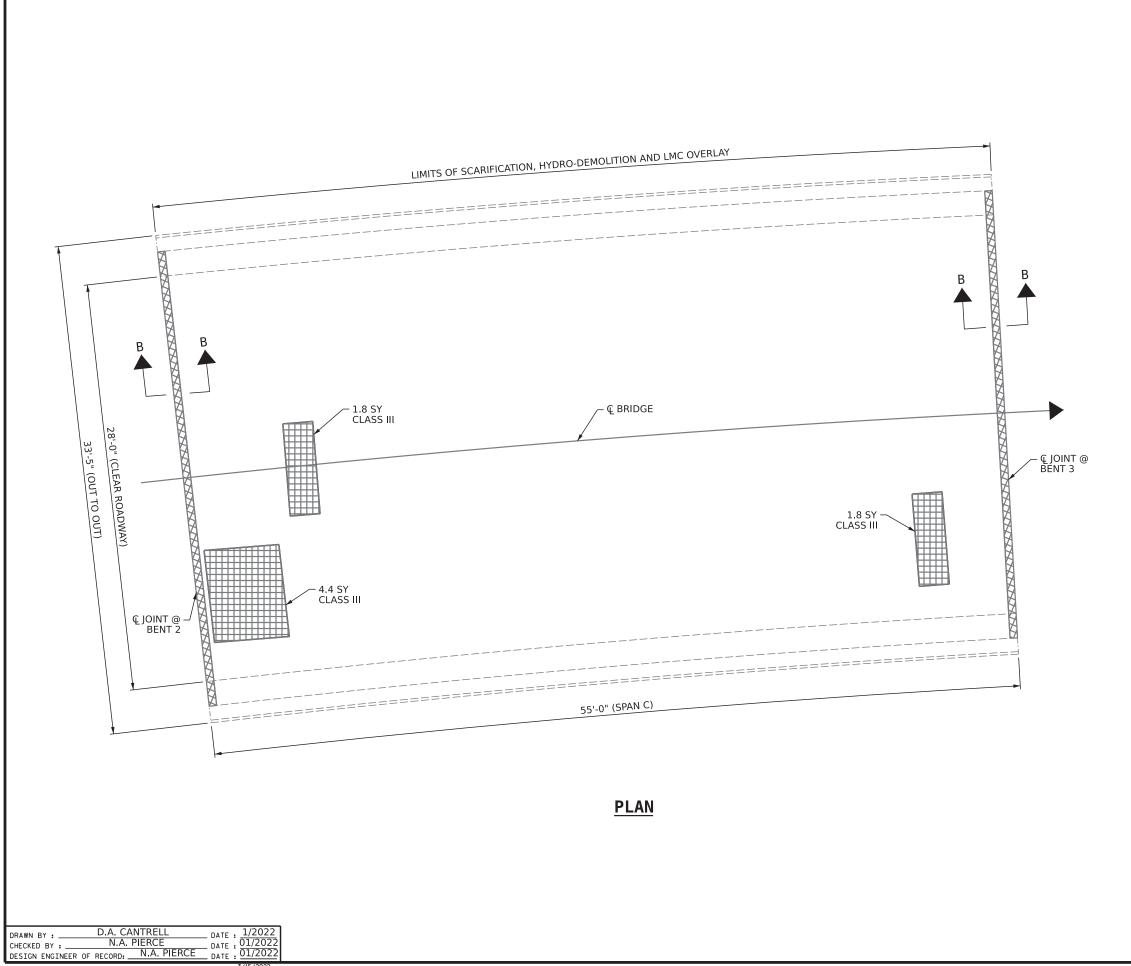
FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

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CLASS II SURFACE PREPARATION

CLASS III SURFACE PREPARATION

	PROJEC	CT NO.	41(665 . 1	4B	
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AS-BUILT REPAIR QUANTITY TABLE

DECK SURFACE REPAIR - SPAN C

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	171.1 SQ.YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	171.1 SQ.YDS.	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	8.0 SQ. YDS.	
BRIDGE JOINT DEMOLITION	56.0 SQ. FT.	
CONCRETE FOR DECK REPAIR	39.0 CU. FT.	
LATEX MODIFIED CONCRETE OVERLAY	11.9 CU.YDS.	
PLACING AND FINISHING LMC OVERLAY	171.1 SQ. YDS.	
GROOVING BRIDGE FLOORS	1350.0 SQ.FT.	

NOTES

DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.

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FOR "CONCRETE FOR DECK REPAIR", SEE SPECIAL PROVISIONS.

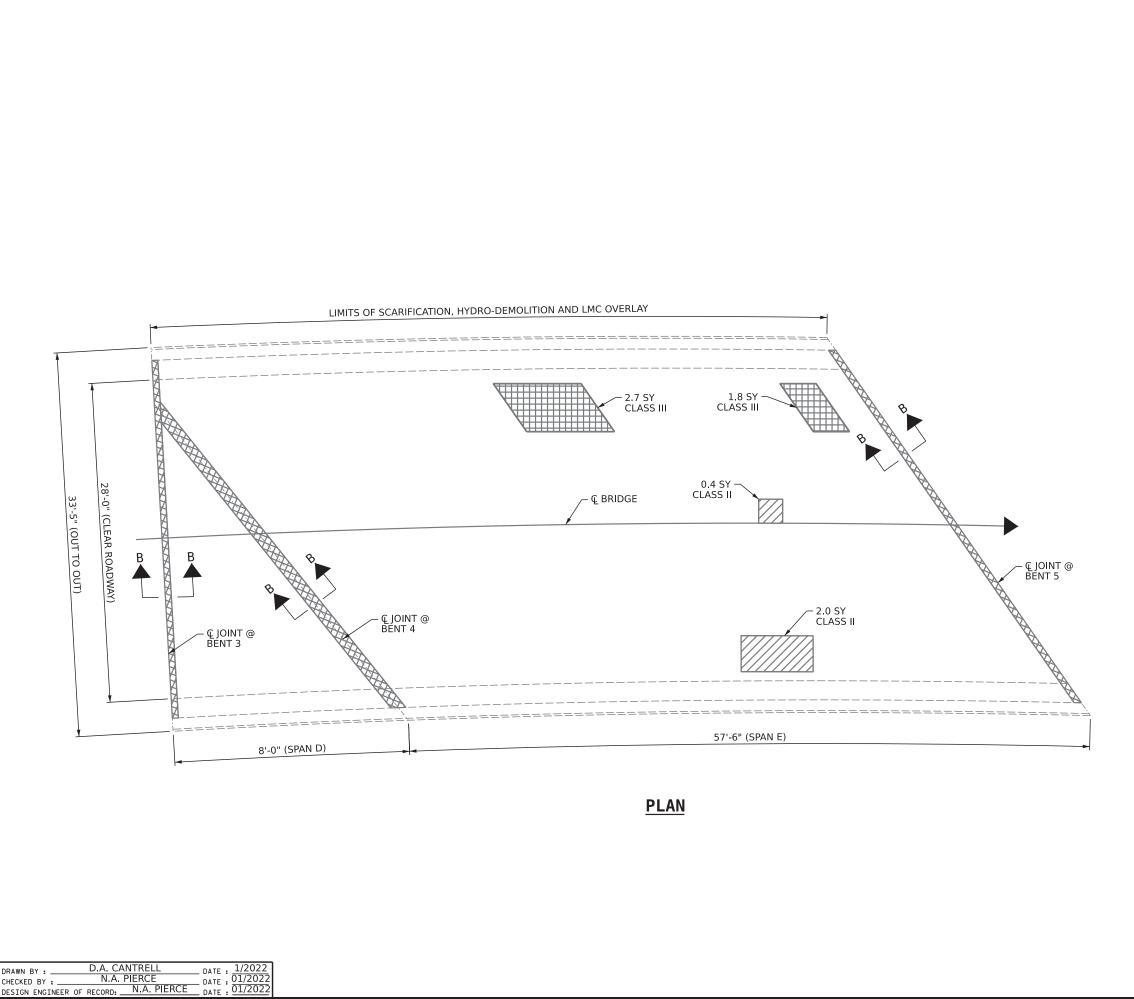
FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

CLASS II SURFACE PREPARATION

CLASS III SURFACE PREPARATION



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03/15/2022		REVIS	IONS		SHEET NO.	
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5/15/2022 St/DEV/Squad_D/Misc Projects/580032_CriticalFind Repair/401_013_SMU_DSR04_S1-07_580032.dgn napierce

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AS-BUILT REPAIR QUANTITY TABLE

DECK SURFACE REPAIR - SPANS D & E

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	203.8 SQ.YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	203.8 SQ.YDS.	
CLASS II SURFACE PREPARATION	2.4 SQ.YDS.	
CLASS III SURFACE PREPARATION	4.5 SQ.YDS.	
BRIDGE JOINT DEMOLITION	84.0 SQ.FT.	
CONCRETE FOR DECK REPAIR	21.7 CU.FT.	
LATEX MODIFIED CONCRETE OVERLAY	14.1 SQ.YDS.	
PLACING AND FINISHING LMC OVERLAY	203.8 SQ.YDS.	
GROOVING BRIDGE FLOORS	1612.5 SQ.FT.	

NOTES

DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.

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FOR "CONCRETE FOR DECK REPAIR", SEE SPECIAL PROVISIONS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

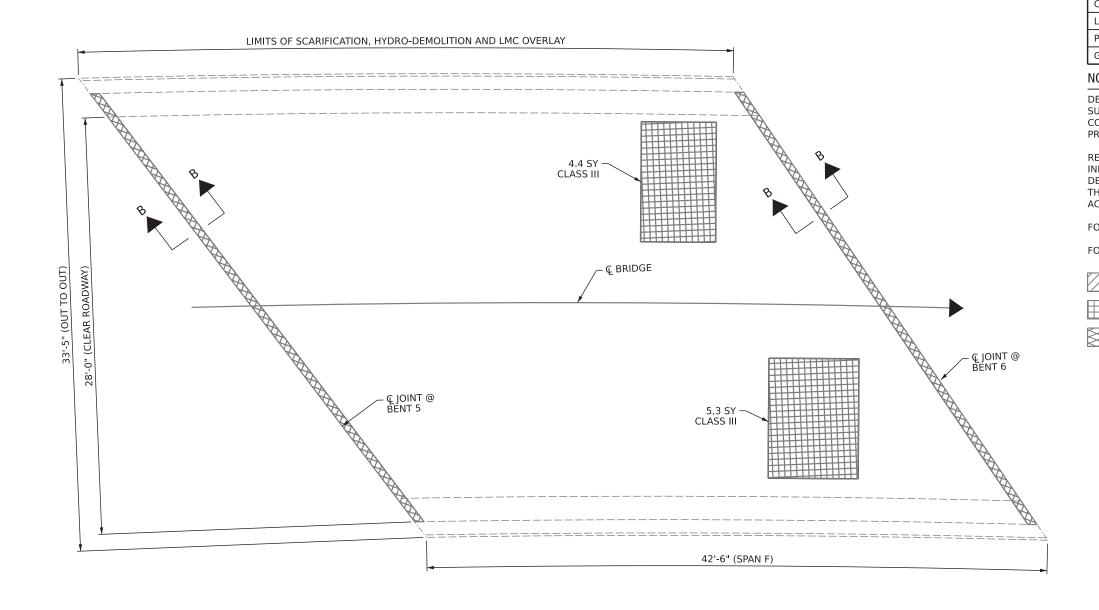
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CLASS II SURFACE PREPARATION

CLASS III SURFACE PREPARATION

	PROJ	EC	T NO.		41(665.1	4B
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEICH						TION	
SEAL CONTACT OF CONTAC	D	EC			ACE	E REP/ & E	AIR
Docusigned by: Nicholos Pierce 151108424008485							
03/15/2022			REVIS	ION	S		SHEET NO.
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FINAL UNLESS ALL	1	_		3 1			TOTAL SHEETS 34



PLAN

DRAWN BY :	D.A. CANTRELL	DATE : 1/2022
CHECKED BY :	N.A. PIERCE	DATE : 01/2022
DESIGN ENGINEER	OF RECORD: N.A. PIERCE	DATE : 01/2022
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AS-BUILT REPAIR QUANTITY TABLE

DECK SURFACE REPAIR - SPAN F

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	132.2 SQ.YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	132.2 SQ.YDS.	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	9.7 SQ.YDS.	
BRIDGE JOINT DEMOLITION	56.0 SQ.FT.	
CONCRETE FOR DECK REPAIR	47.7 CU.FT.	
LATEX MODIFIED CONCRETE OVERLAY	9.2 CU.YDS.	
PLACING AND FINISHING LMC OVERLAY	132.2 SQ.YDS.	
GROOVING BRIDGE FLOORS	1037.5 SQ.FT.	

NOTES

DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.

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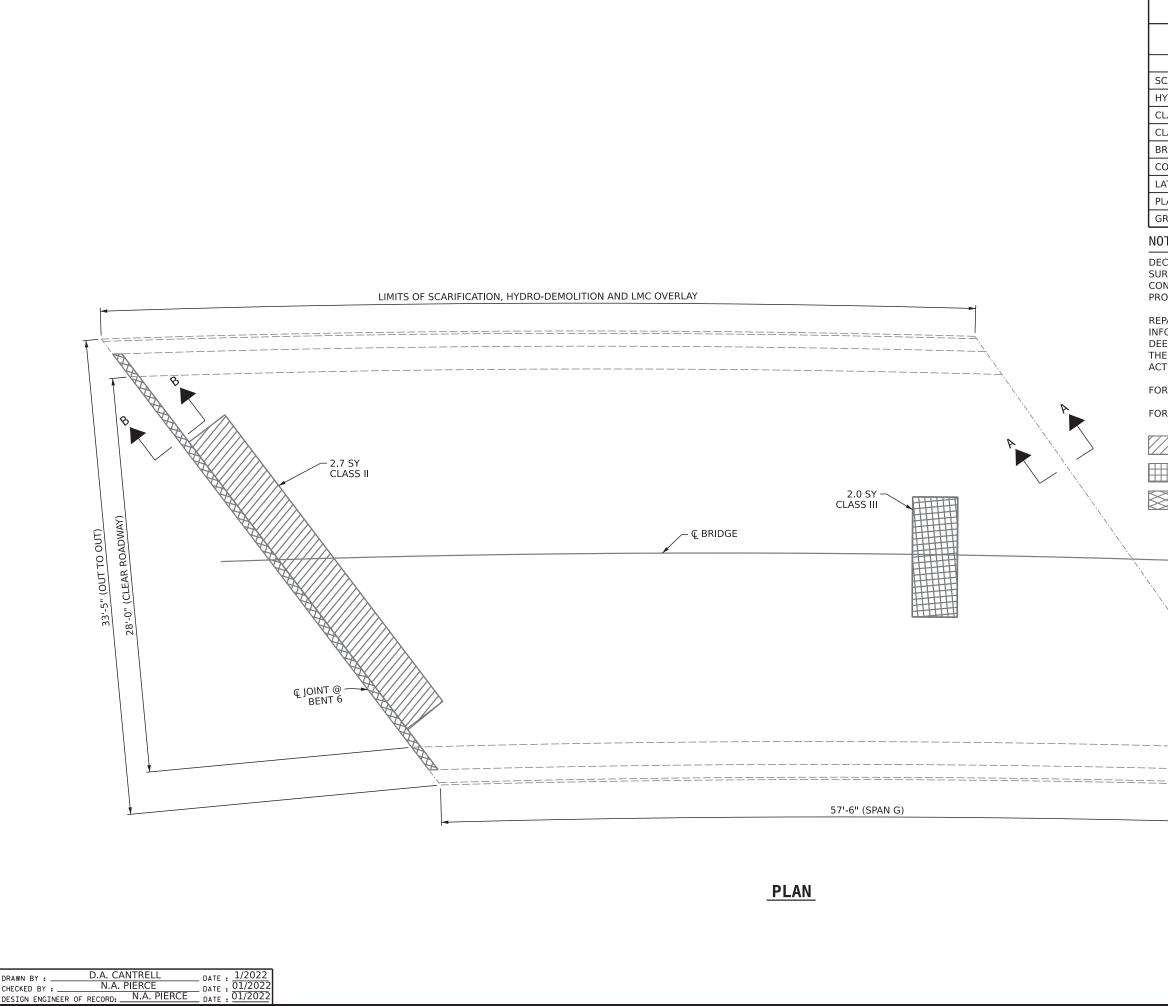
FOR "CONCRETE FOR DECK REPAIR", SEE SPECIAL PROVISIONS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

CLASS II SURFACE PREPARATION

CLASS III SURFACE PREPARATION

	PROJEC	CT NO.	41	665.1	4B
		1CDOW	ELL	CO	UNTY
	BRIDGE	E NO	5	80032	
	SHEET 5 0)F 6			
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SEAL O37479	DE		RFACE SPAN	E REP/ F	AIR
Docusigned by: Nicholas Pierce 151108434D08485					
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SIGNATURES COMPLETED	2		4		34



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AS-BUILT REPAIR QUANTITY TABLE

DECK SURFACE REPAIR - SPAN G

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	178.9 SQ.YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	178.9 SQ.YDS.	
CLASS II SURFACE PREPARATION	2.7 SQ. YDS.	
CLASS III SURFACE PREPARATION	2.0 SQ. YDS.	
BRIDGE JOINT DEMOLITION	56.0 SQ.FT.	
CONCRETE FOR DECK REPAIR	9.75 CU.FT.	
LATEX MODIFIED CONCRETE OVERLAY	12.4 CU.YDS.	
PLACING AND FINISHING LMC OVERLAY	178.9 SQ.YDS.	
GROOVING BRIDGE FLOORS	1412.5 SQ.FT.	

NOTES

DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR AFTER REMOVAL OF UNSOUND CONCRETE. (MIN. 2" CLEAR TO SAWCUT). SEE CONCRETE FOR DECK REPAIR SPECIAL PROVISION.

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

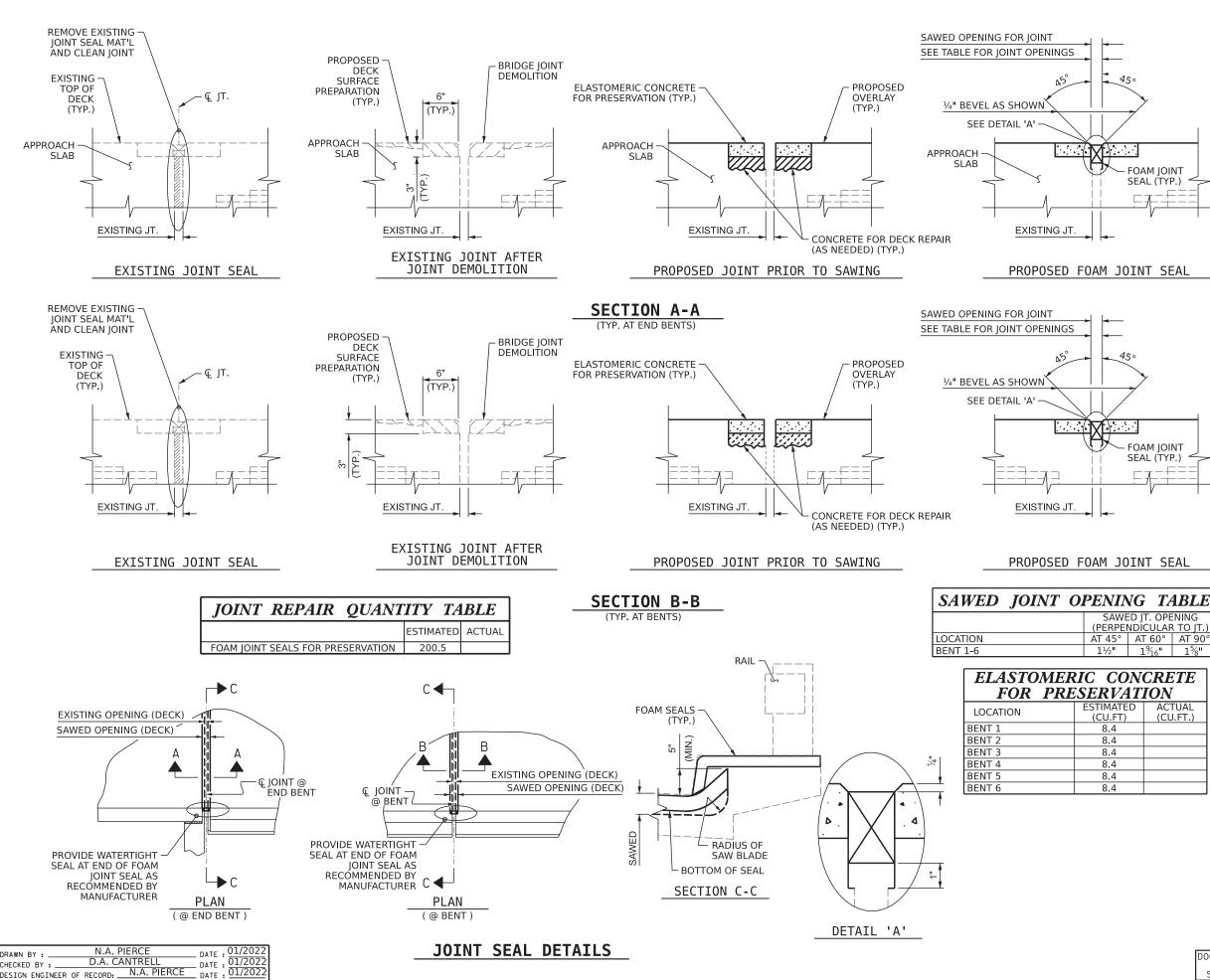
FOR "CONCRETE FOR DECK REPAIR", SEE SPECIAL PROVISIONS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

CLASS II SURFACE PREPARATION

CLASS III SURFACE PREPARATION

Ç JOINT @ ABUTMENT 2					
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THE ESSOR		STA	TE OF NORTH CAN OF TRA RALEIGH	^{ROLINA} NSPORTA	TION
ZEAL CONTRACT OF C	DE		IRFACI Span	E REP/ G	AIR
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FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE, WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF ½" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.

FOR EXCAVATION BELOW THE BOTTOM OF PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE PROPOSED ELASTOMERIC CONCRETE FOR PRESERVATION HEADERS SHOWN.

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILIYU OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL

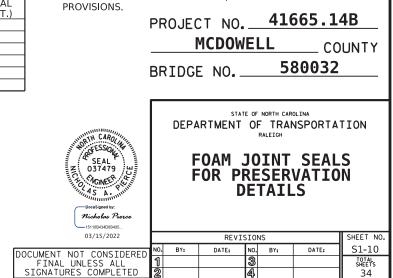
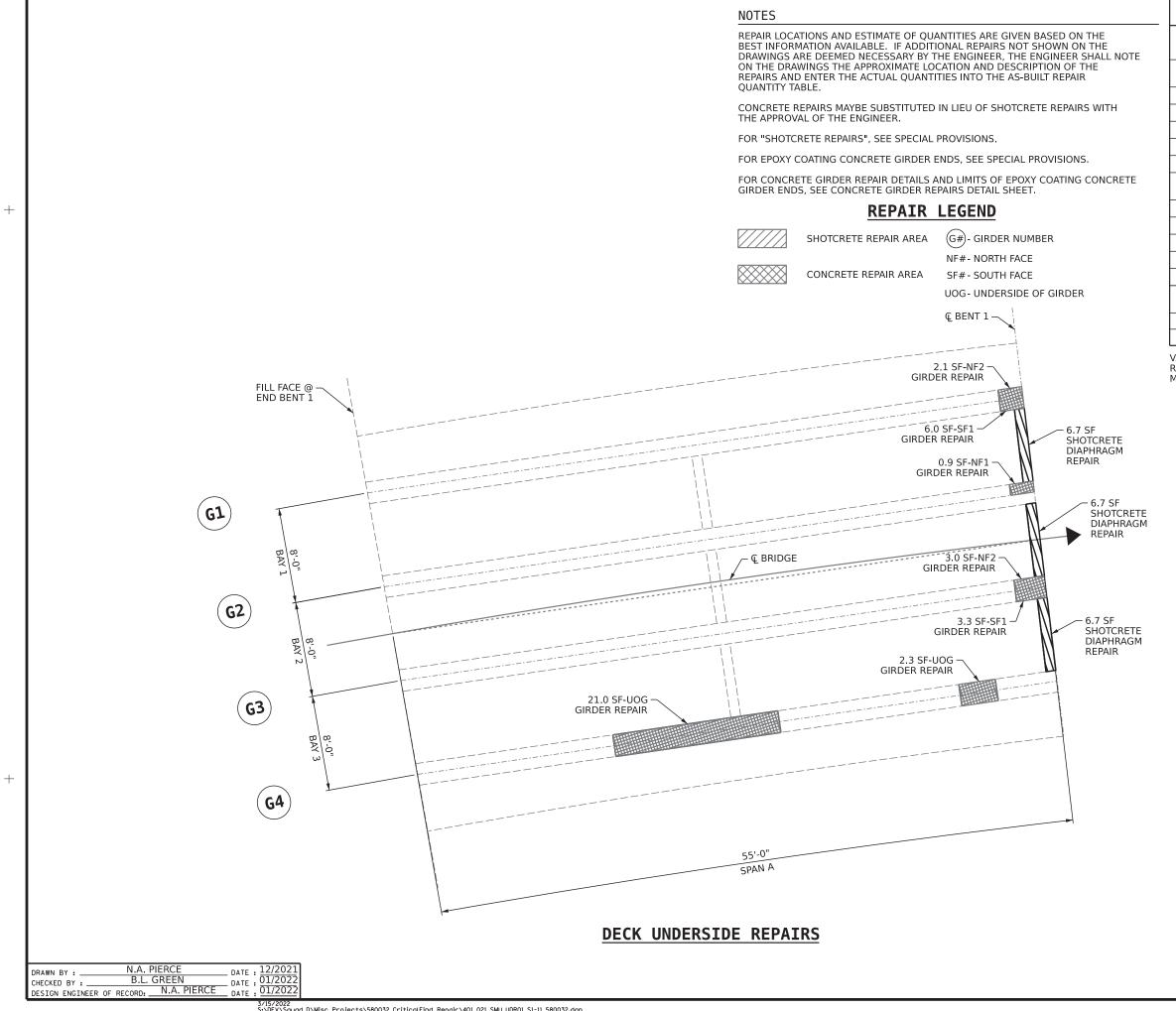
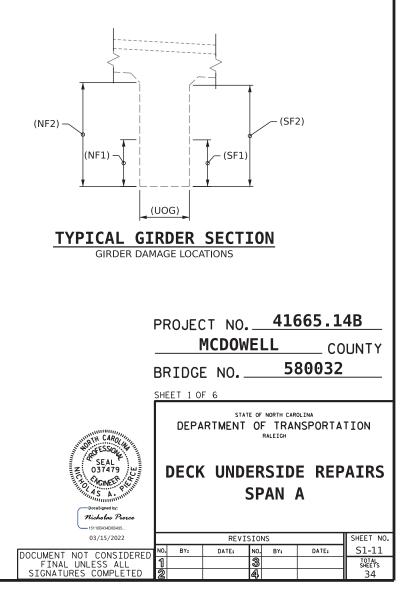


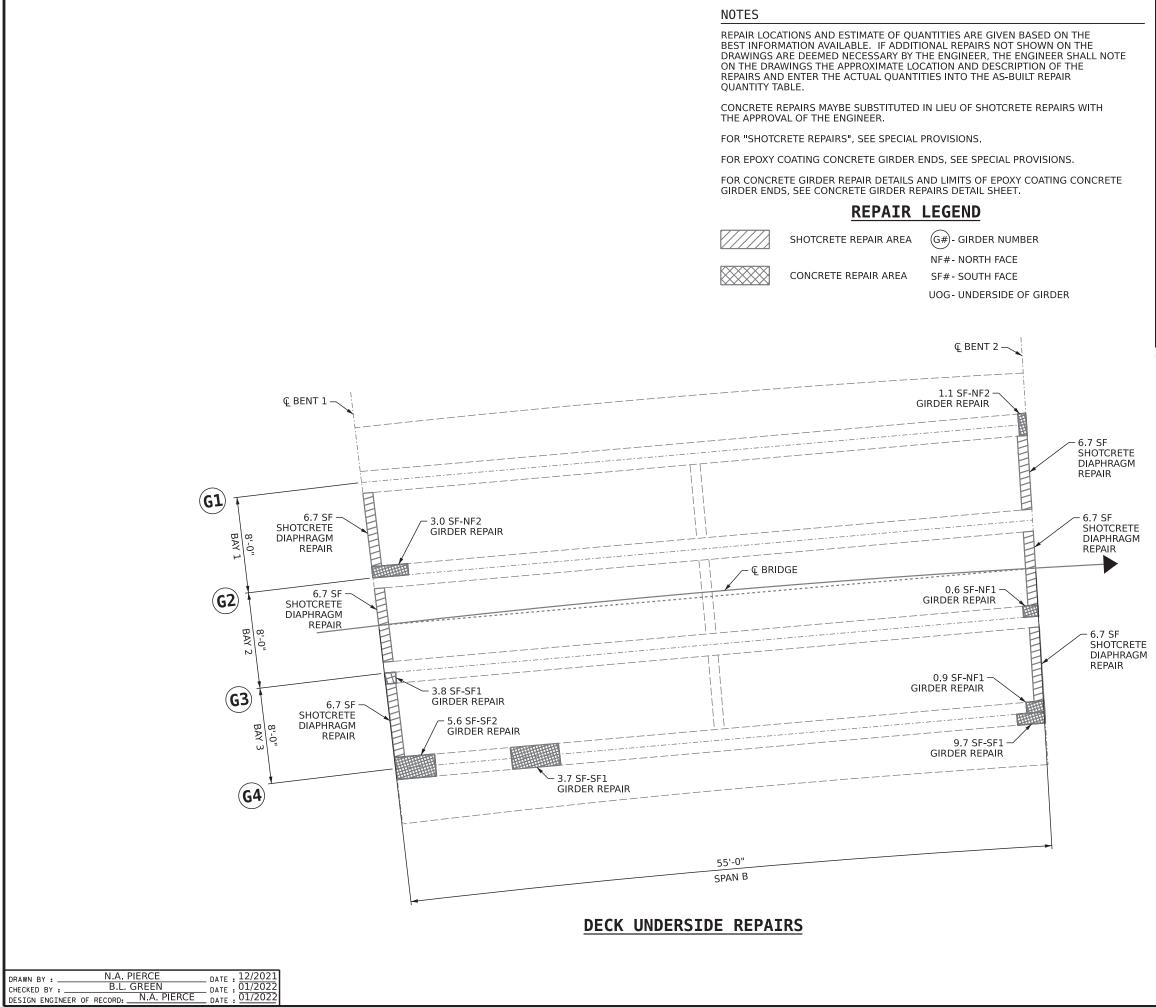
TABLE					
	NING TO (T.)				
0°	AT 90°				
6 "	1%"				



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AS-BUILT REPAIR QUANTITY TABLE						
DECK UNDERSIDE REPAIRS		QUAN	TITIES			
DECK UNDERSIDE REPAIRS	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	20.1	20.1				
OVERHANG	0	0				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	0	0				
OVERHANG	0	0				
CONCRETE GIRDER	38.6	22.8				
EPOXY COATING		AREA SF		AREA SF		
GIRDER ENDS		25.8				



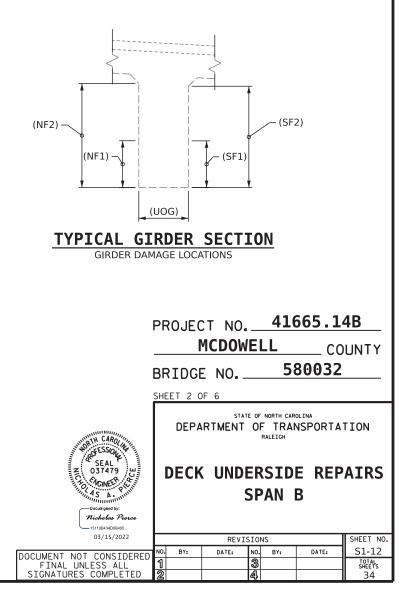


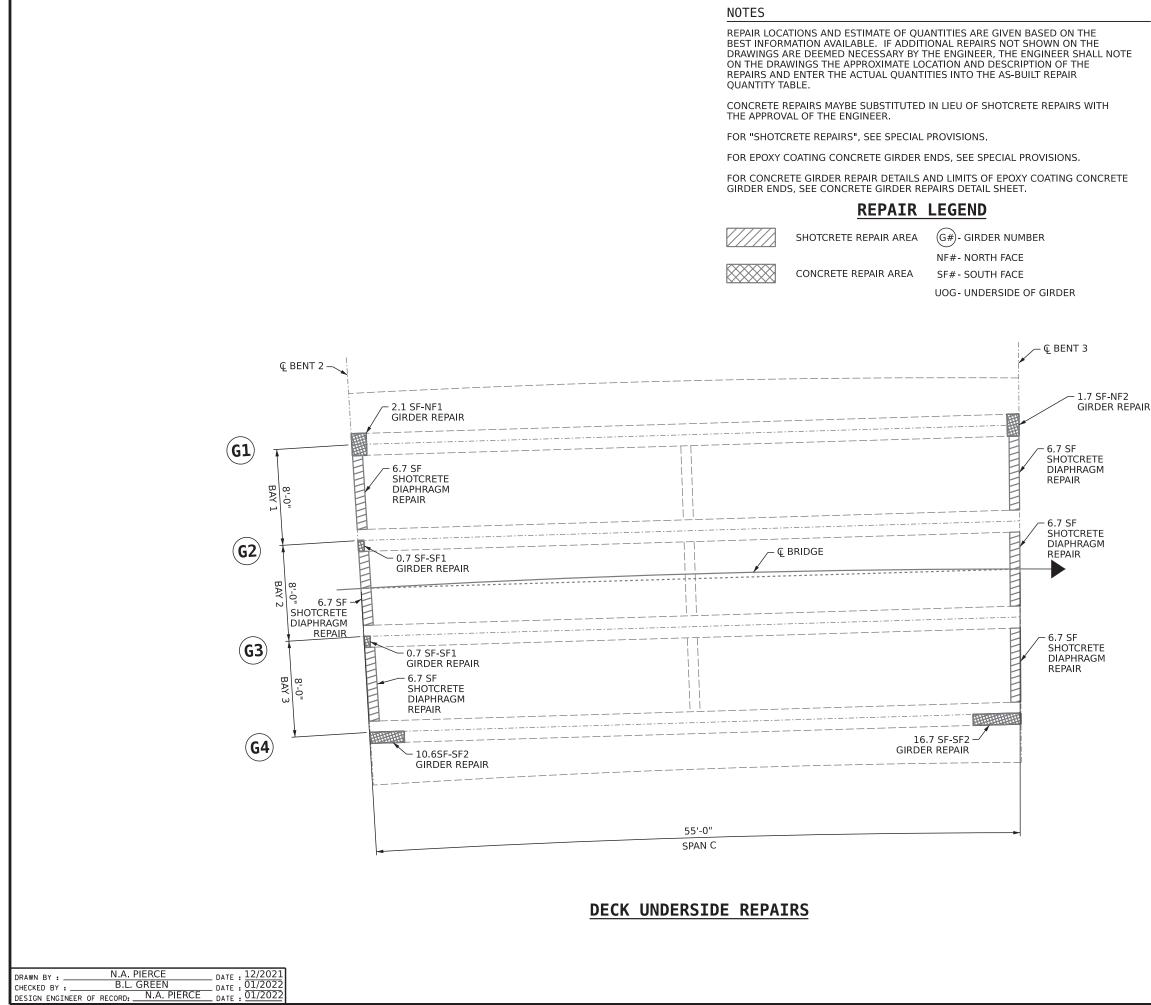
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AS-BUILT REPAIR QUANTITY TABLE						
DECK UNDERSIDE REPAIRS		QUANTITIES				
DECK UNDERSIDE REPAIRS	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	40.2	40.2				
OVERHANG	0	0				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	0	0				
OVERHANG	0	0				
CONCRETE GIRDER	28.4	21.9				
EPOXY COATING		AREA SF		AREA SF		
GIRDER ENDS		51.6				





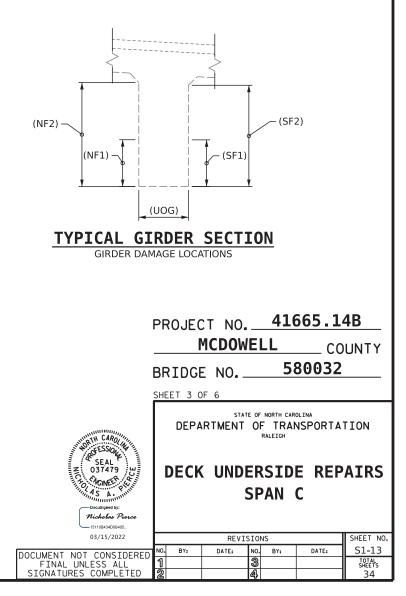
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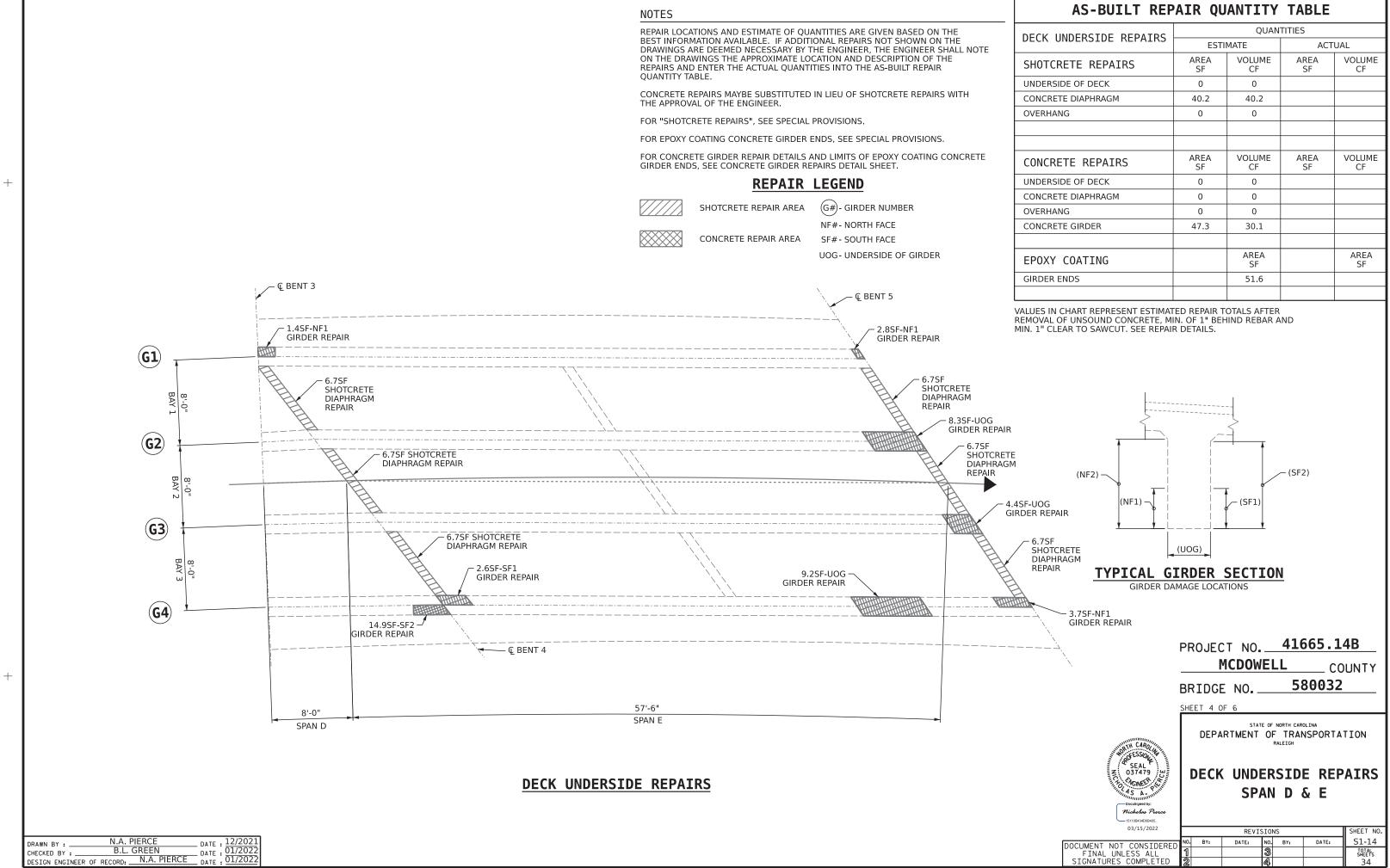
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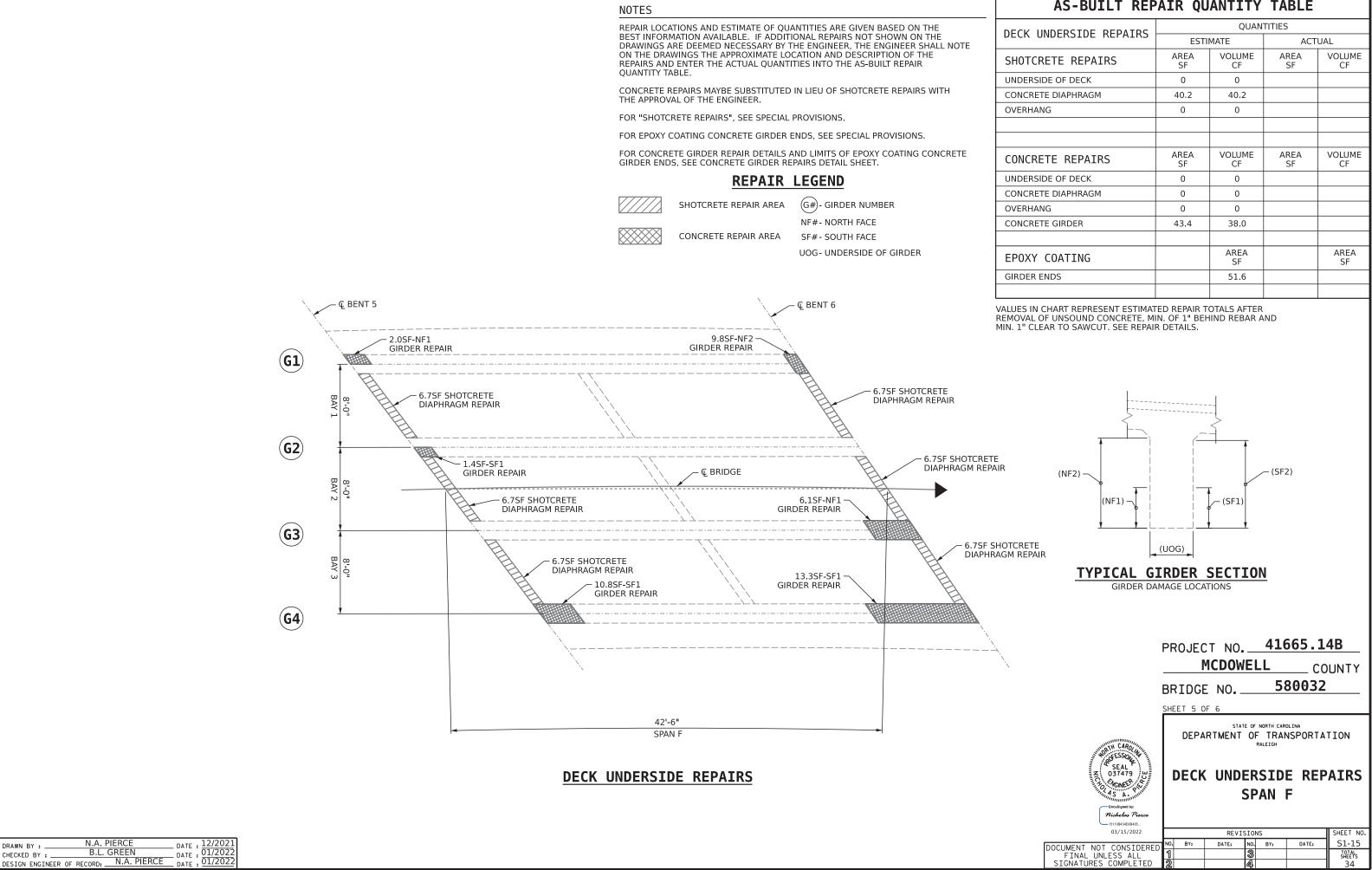
AS-BUILT REPAIR QUANTITY TABLE						
DECK UNDERSIDE REPAIRS	TITIES					
DECK UNDERSIDE REPAIRS	ESTII	ESTIMATE ACTUAL		UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	40.2	40.2				
OVERHANG	0	0				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	0	0				
OVERHANG	0	0				
CONCRETE GIRDER	32.5	33.5				
EPOXY COATING		AREA SF		AREA SF		
GIRDER ENDS		51.6				





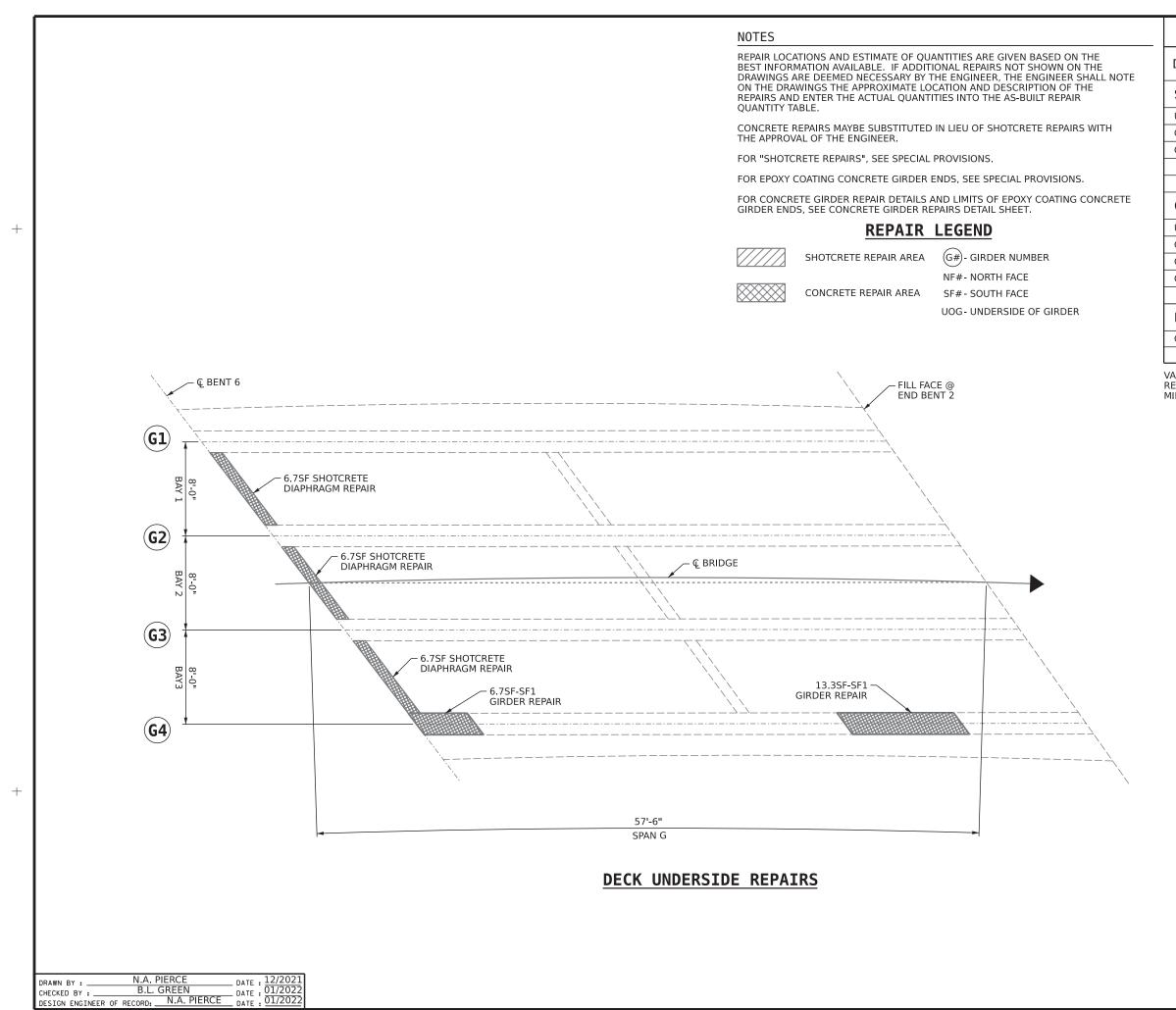
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AS-BUILT REPAIR QUANTITY TABLE						
DECK UNDERSIDE REPAIRS		QUAN	TITIES			
DECK UNDERSIDE REPAIRS	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	40.2	40.2				
OVERHANG	0	0				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	0	0				
OVERHANG	0	0				
CONCRETE GIRDER	47.3	30.1				
EPOXY COATING		AREA SF		AREA SF		
GIRDER ENDS		51.6				

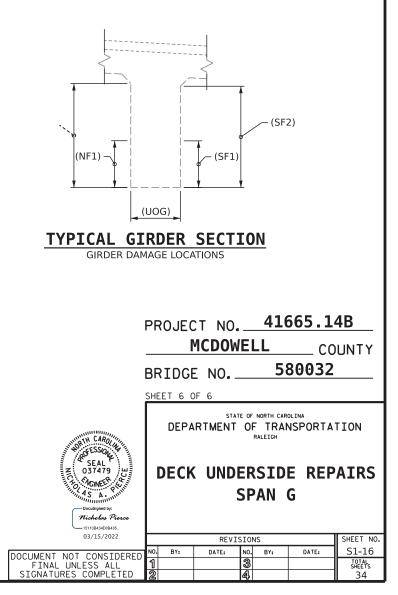


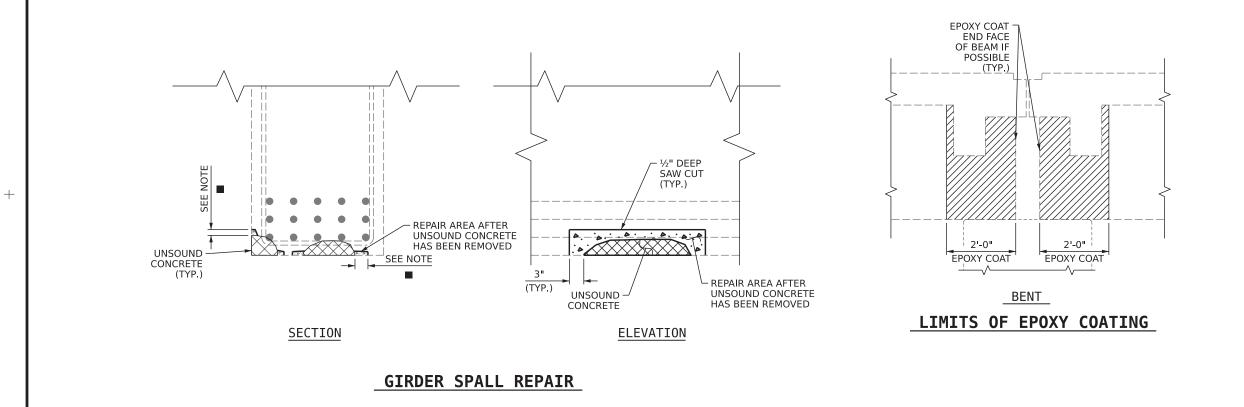
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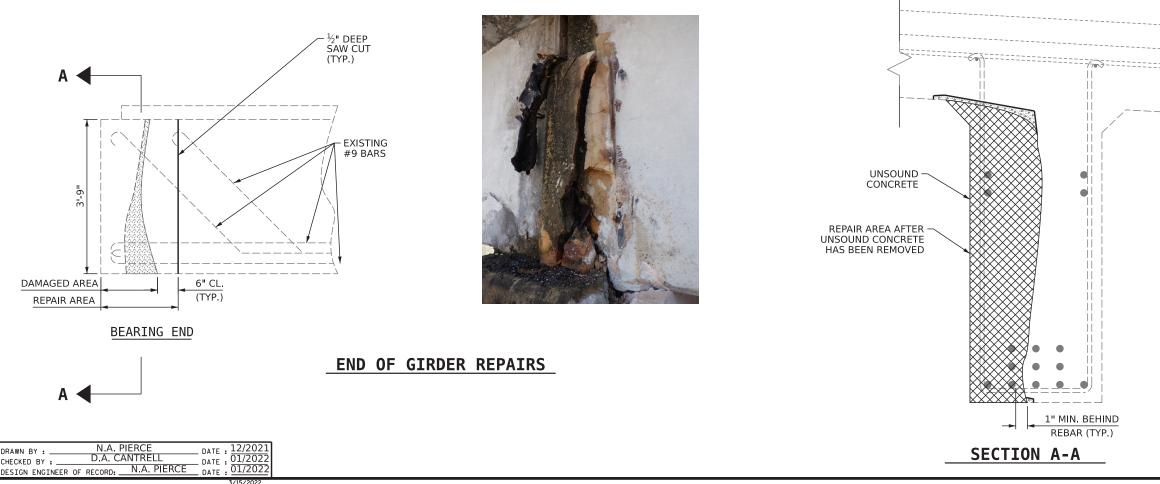
AS-BUILT REPAIR QUANTITY TABLE						
		QUAN	TITIES			
DECK UNDERSIDE REPAIRS	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	40.2	40.2				
OVERHANG	0	0				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	0	0				
OVERHANG	0	0				
CONCRETE GIRDER	43.4	38.0				
EPOXY COATING		AREA SF		AREA SF		
GIRDER ENDS		51.6				



AS-BUILT REPAIR QUANTITY TABLE						
DECK UNDERSIDE REPAIRS		QUANTITIES				
DECK UNDERSIDE REPAIRS	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	20.1	20.1				
OVERHANG	0	0				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
UNDERSIDE OF DECK	0	0				
CONCRETE DIAPHRAGM	0	0				
OVERHANG	0	0				
CONCRETE GIRDER	20.0	12.2				
EPOXY COATING		AREA SF		AREA SF		
GIRDER ENDS		25.8				







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NOTES

REPAIRS TO EXISTING DECK GIRDERS SHALL NOT BE MADE UNTIL THE SPAN HAS BEEN LIFTED TO ITS ORIGINAL BEARING LOCATION AND THE BENT CAP HAS BEEN FULLY REPAIRED.

EXISTING GIRDERS HAVE 1"Ø DOWELS CONNECTING THE GIRDER TO THE BENT CAP AT THE BEARINGS. THESE DOWELS WILL NEED TO BE STRAIGHTENED TO RETURNED TO ORIGINAL POSITIONS.

REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. SAW CUT AROUND AREA TO A NOMINAL DEPTH OF ½".

IF MORE THAN HALF THE CIRCUMFERENCE OF A REINFORCING BAR IS EXPOSED DURING THIS PROCESS, REMOVE ADDITIONAL CONCRETE TO 1" BEHIND THE BAR.

ALL UNSOUND CONCRETE MUST BE REMOVED. HOWEVER, REINFORCEMENT SHOULD NOT BE DISTURBED UNLESS ABSOLUTELY NECESSARY. USE EXTREME CARE NOT TO DAMAGE REINFORCING STEEL.

USE ABRASIVE BLASTING TO CLEAN ALL EXPOSED REINFORCING BARS. FOR BARS WITH MORE THAN 10% SECTION LOSS, SPLICE AND SECURELY TIE SUPPLEMENTAL REINFORCING BARS AS NEEDED.

REMOVE ALL LOOSE OR WEAKENED MATERIAL, THEN CLEAN THE REPAIR AREA OF DIRT, GREASE, OIL AND FOREIGN MATTER.

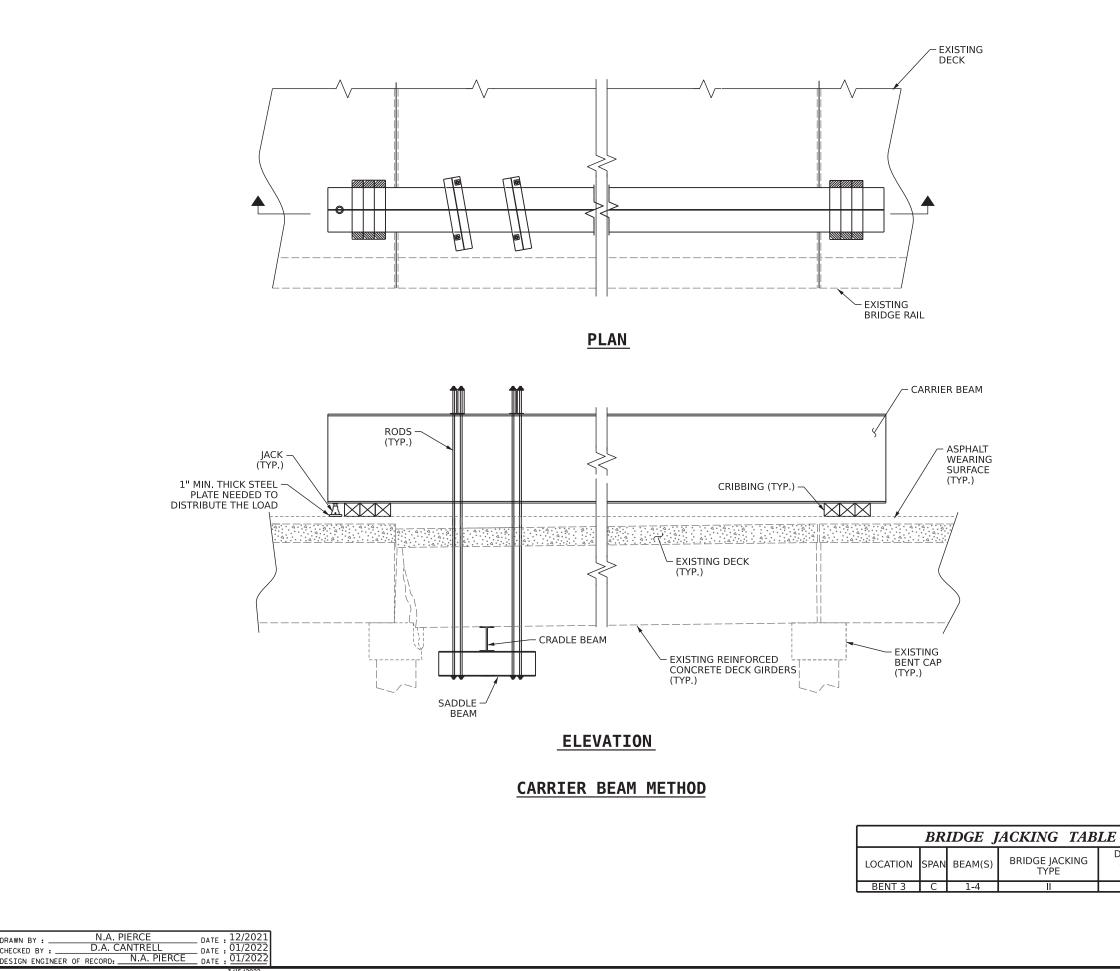
PREPARE SURFACE AND PLACE APPROVED REPAIR MATERIAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, MAXIMUM AGGREGATE SIZE FOR REPAIR MATERIAL SHALL NOT EXCEED $^2\!\!/_3$ THE MINIMUM REPAIR DEPTH.

PREPACKAGED MATERIAL IS REQUIRED.

FOR REPAIRS TO CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING CONCRETE GIRDER ENDS, SEE SPECIAL PROVISIONS.

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NOTES

THIS DETAIL IS A GENERIC EXAMPLE OF A JACKING SCHEME AND DOES NOT NECESSARILY REPRESENT SPECIFIC CONDITIONS AT A PARTICULAR BRIDGE. ACTUAL BRIDGE GEOMETRIES, DIMENSIONS, AND CONDITIONS MAY DIFFER FROM THIS DETAIL PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL INVESTIGATE THE BRIDGES ON THE PROJECT AND DEVELOP A JACKING PLAN TO BE SUBMITTED FOR REVIEW AND APPROVAL. SEE BRIDGE JACKING SPECIAL PROVISION.

PRIOR TO BRIDGE JACKING OPERATIONS, THE ENGINEER AND CONTRACTOR SHALL INSPECT THE STRUCTURE FOR ANY NOTABLE DEFECTS TO THE PRIMARY AND SECONDARY STRUCTURAL MEMBERS. ALL NOTABLE DEFECTS SHALL BE DOCUMENTED AND REPORTED TO THE AREA BRIDGE MAINTENANCE ENGINEER PRIOR TO COMMENCEMENT OF ANY BRIDGE IACKING. THE CONTRACTOR SHALL PROVIDE SAFE AND SUFFICIENT ACCESS TO ALL STRUCTURAL MEMBERS FOR THE ENGINEER TO ESTABLISH PROPER DOCUMENTATION.

PRIOR TO JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE BEAM FROM BEING LIFTED.

THE BEAM SHALL BE LIFTED ENOUGH THAT THE BEAM CLEARS THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE, THE CONTRACTOR SHALL PROVIDE FOR A METHOD TO REMOVE THE JACKS AND SUPPORT THE BEAM FOR DEAD AND LIVE LOAD DURING THE REPAIR OPERATIONS. IF THE JACKS REMAIN IN PLACE DURING THE ENTIRE JACKING AND REPAIR OPERATION, THEY SHALL HAVE MECHANICAL LOCK OFF CAPABILITIES.

IF, DURING THE JACKING PROCESS, OR WHILE THE BEAM IS BEING SUPPORTED, THE BEAM SHIFTS FROM ITS ORIGINAL POSITION, ALL WORK SHALL CEASE AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

BEARINGS ADJACENT TO THE BEAM BEING JACKED MAY BE LOOSENED TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARINGS LOOSENED SHALL BE TIGHTENED BACK AFTER REPAIR OPERATIONS ARE COMPLETED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

THE EXISTING BEAMS SHALL BE JACKED TO THEIR ORIGINAL BEARING LOCATIONS. THE MAXIMUM DIFFÉRENTIAL BETWEEN ADJACENT BEAMS THAT ARE BEING JACKED SHOULD BE WITHIN $\frac{1}{8}$ " OF THEIR ORIGINAL ELEVATION WHEN COMPLETED.

LOADS PROVIDED IN THE "BRIDGE JACKING TABLE" ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, THE CONTRACTOR'S ENGINEER SHALL DETERMINE THE EXPECTED LOADS TO BE LIFTED DURING THE BRIDGE JACKING OPERATIONS.

THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND CALCULATIONS OF THE JACKING PROCEDURE(S) SEALED BY A PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA TO THE ENGINEER FOR APPROVAL PRIOR TO BRIDGE JACKING OPERATIONS.

FOR TYPE I OR TYPE II BRIDGE JACKING, SEE SPECIAL PROVISIONS.

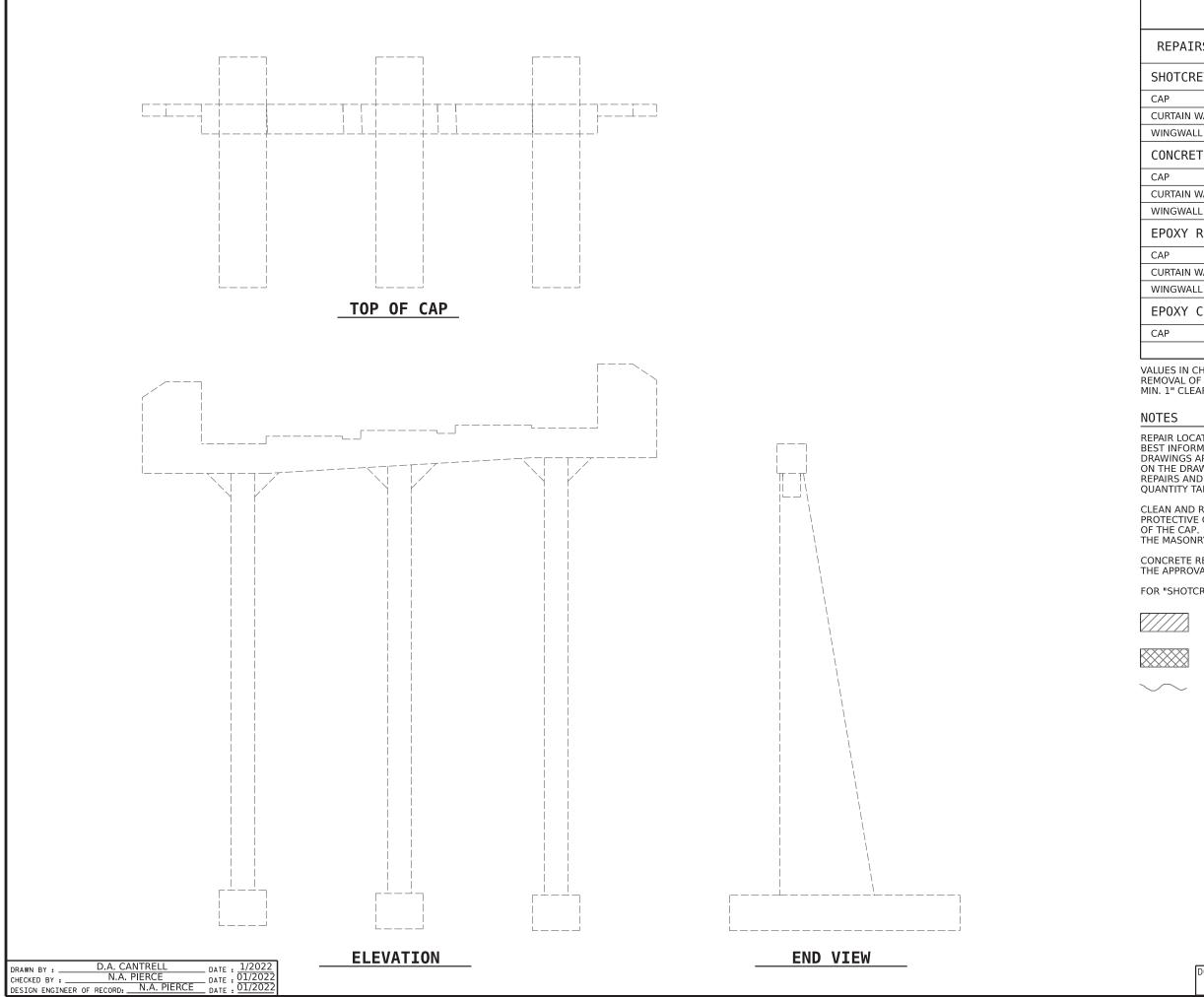
FOR WORKING DRAWING SUBMITTALS, SEE SPECIAL PROVISIONS.

ANY STEEL THAT HAS BEEN WELDED TO THE EXISTING STRUCTURE SHALL REMAIN IN PLACE.

TYPE II BRIDGE JACKING SHALL BE DONE WITH A HYDRUALIC JACKING SYSTEM THAT LIFTS EACH BEAM ALONG ENTIRE SPAN END WITH EQUAL FORCE AND AT AN EQUAL RATE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED TO THE EXISTING STRUCTURE BY BRIDGE JACKING OPERATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.

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DEAD LOAD (DC+DW) (KIPS) 66	SEAL 37479			GE JA DETAI	ACKING LS	6
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AS-BUILT REPAIR QUANTITY TABLE						
REPAIRS - END BENT 1		QUAN	TITIES			
REPAIRS - END DENT I	ESTII	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP	0	0				
CURTAIN WALL	0	0				
WINGWALL						
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP	0	0				
CURTAIN WALL	0	0				
WINGWALL						
EPOXY RESIN INJECTION		LINEAR FT		LINEAR FT		
CAP		0				
CURTAIN WALL		0				
WINGWALL						
EPOXY COATING		AREA SF		AREA SF		
CAP		50.3				
LUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER MOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 1" CLEAR TO SAWCHT SEE REPAIR DETAILS						

MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

CONCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

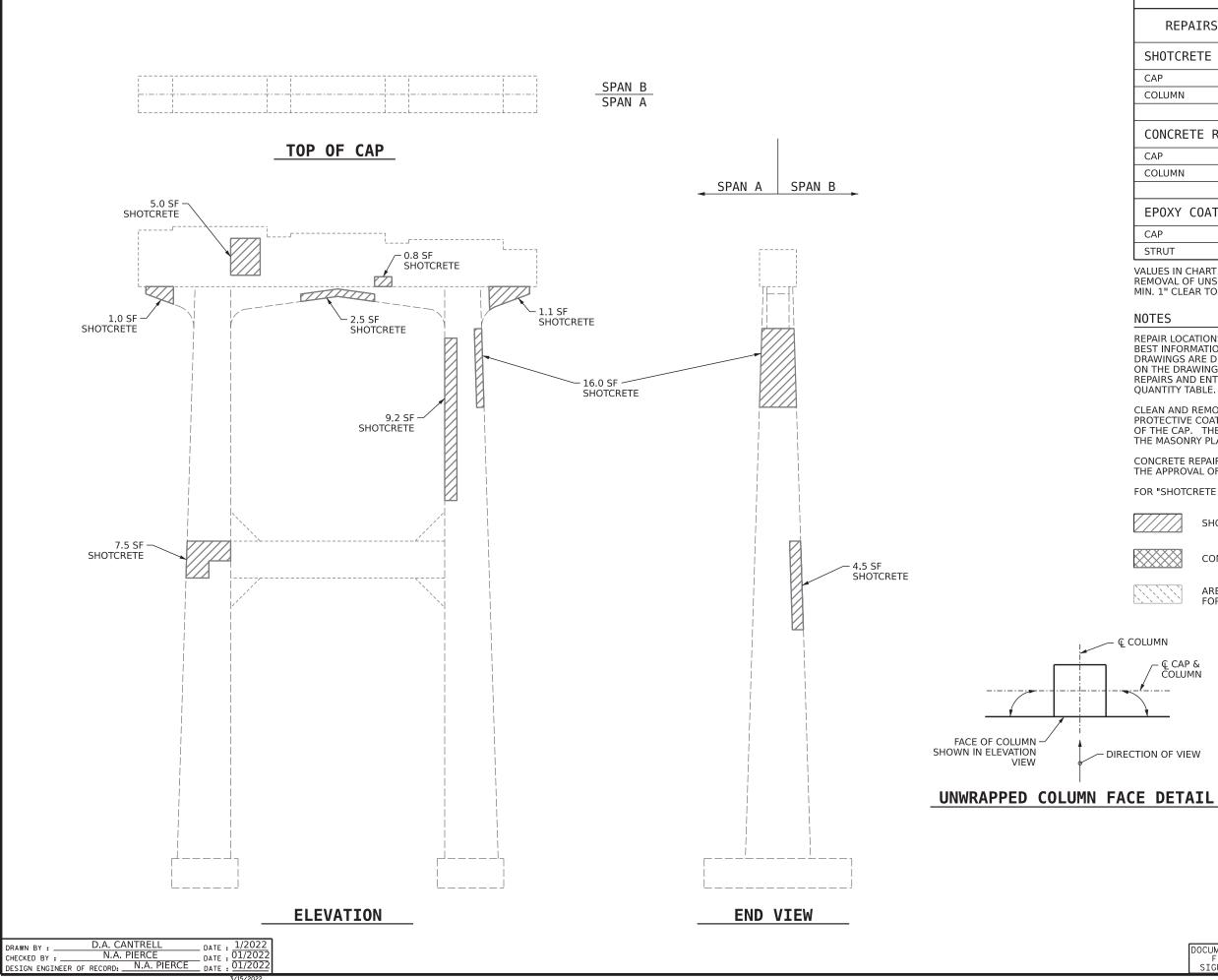
FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

EPOXY RESIN INJECTION

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		1CDOW			UNTY
	BRIDG	E NO	58	80032	
	SHEET 1 O	F 14			
NUMERICARD	DEPA	state RTMENT	OF NORTH CAR		TION
SEAL CROCKES SCAL CONCESSON SCAL	SUB	STRUC	TURE		IRS
DocuSigned by: <i>Richolas Pierce</i> 15110B434D0B485					
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AS-BUILT REPAIR OUANTITY TABLE

AS-DOILT KEI	ATU QU		IADEE				
REPAIRS - BENT 1	QUANTITIES						
REPAIRS - BENT I	ESTII	MATE	ACT	UAL			
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
CAP	10.4	2.9					
COLUMN	37.2	18.6					
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
CAP	0	0					
COLUMN	0	0					
EPOXY COATING		AREA SF		AREA SF			
САР		84.4					
STRUT		45.3					

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

CONCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

AREA PREVIOUSLY ACCOUNTED FOR ON ADJACENT FACE

SHOTCRETE REPAIR AREA

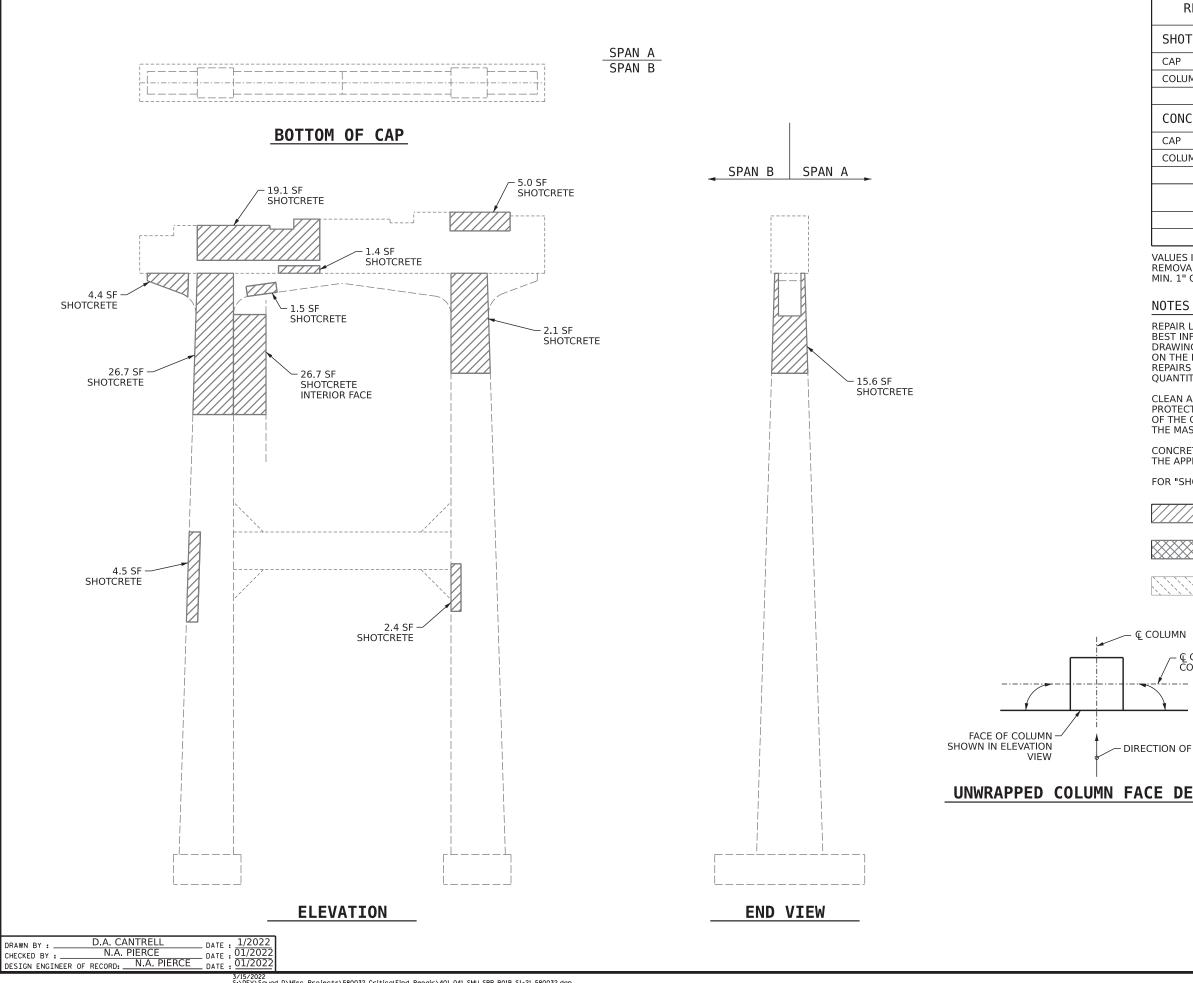
CONCRETE REPAIR AREA

CAP & COLUMN

PROJECT NO. 41665.14B MCDOWELL - DIRECTION OF VIEW 580032 BRIDGE NO. SHEET 2 OF 14 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH ະ SEAL 037479 SUBSTRUCTURE REPAIRS CINEE

BENT 1 SPAN A FACE 45 A. Nicholas Pier - 15110R434D0R485 03/15/2022 REVISIONS SHEET NO S1-20 DATE: NO. BY: DATE: BY: DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED total sheets 34

COUNTY



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AS-BUILT REF	PAIR QU	ANTITY	TABLE						
REPAIRS - BENT 1		QUANTITIES							
REPAIRS - BENT I	ESTI	MATE	ACT	UAL					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF					
САР	31.4	15.6							
COLUMN	78.0	42.0							
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF					
САР	0	0							
COLUMN	0	0							
VALUES IN CHART REPRESENT ESTIMA REMOVAL OF UNSOUND CONCRETE, M MIN. 1" CLEAR TO SAWCUT. SEE REPAI	IN. OF 1" BEH								

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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CONCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

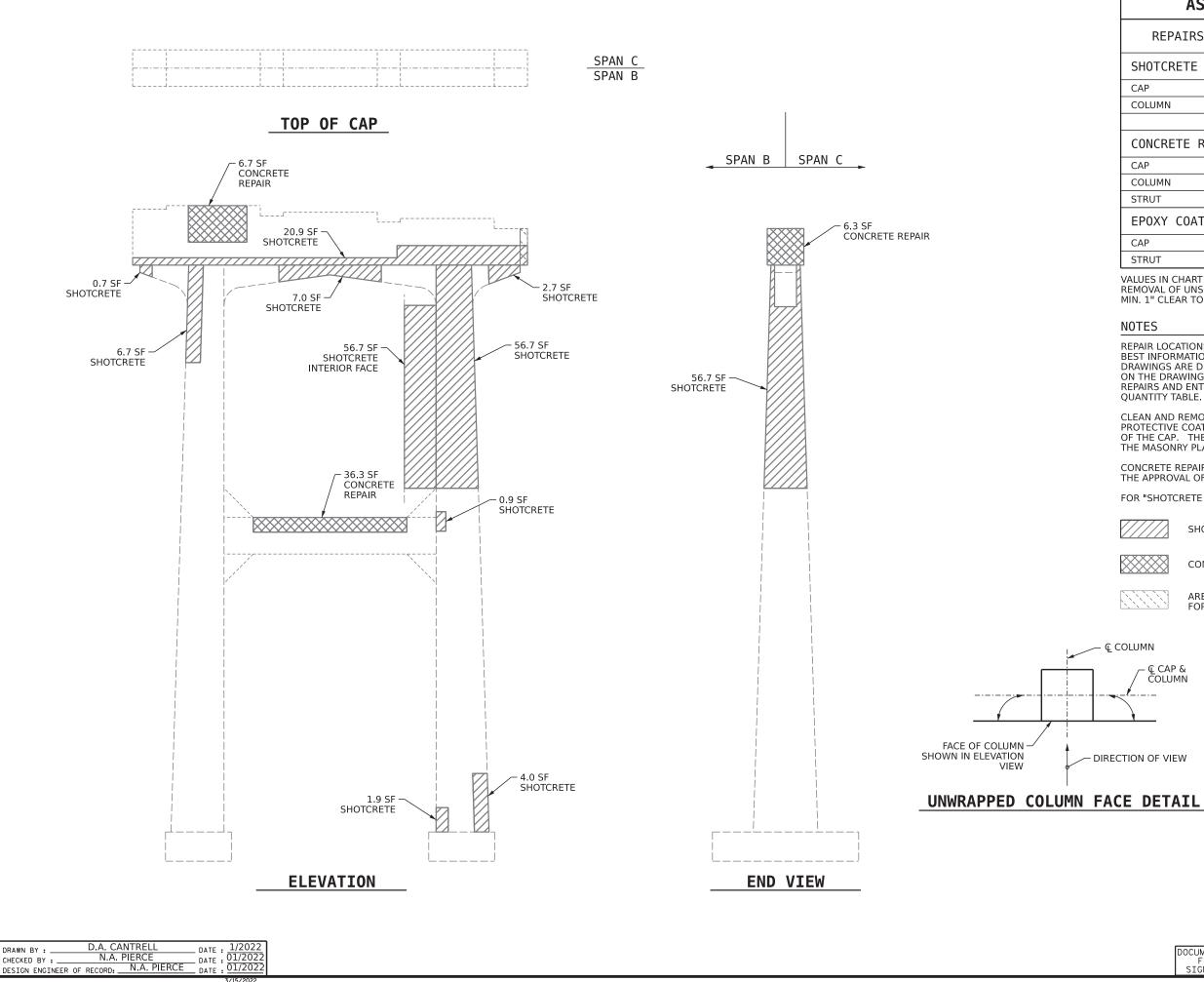
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SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

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AS-BUILT REPAIR OUANTITY TABLE

AS BUILT REF	ATU QU						
REPAIRS - BENT 2	QUANTITIES						
REPAIRS - BENT 2	ESTI	MATE	ACT	UAL			
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
САР	31.3	15.7					
COLUMN	183.6	91.6					
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
САР	13.0	7.5					
COLUMN	0	0					
STRUT	36.3	36.3					
EPOXY COATING		AREA SF		AREA SF			
САР		84.4					
STRUT		45.3					

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

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SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

CAP & COLUMN

580032 BRIDGE NO. SHEET 4 OF 14

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

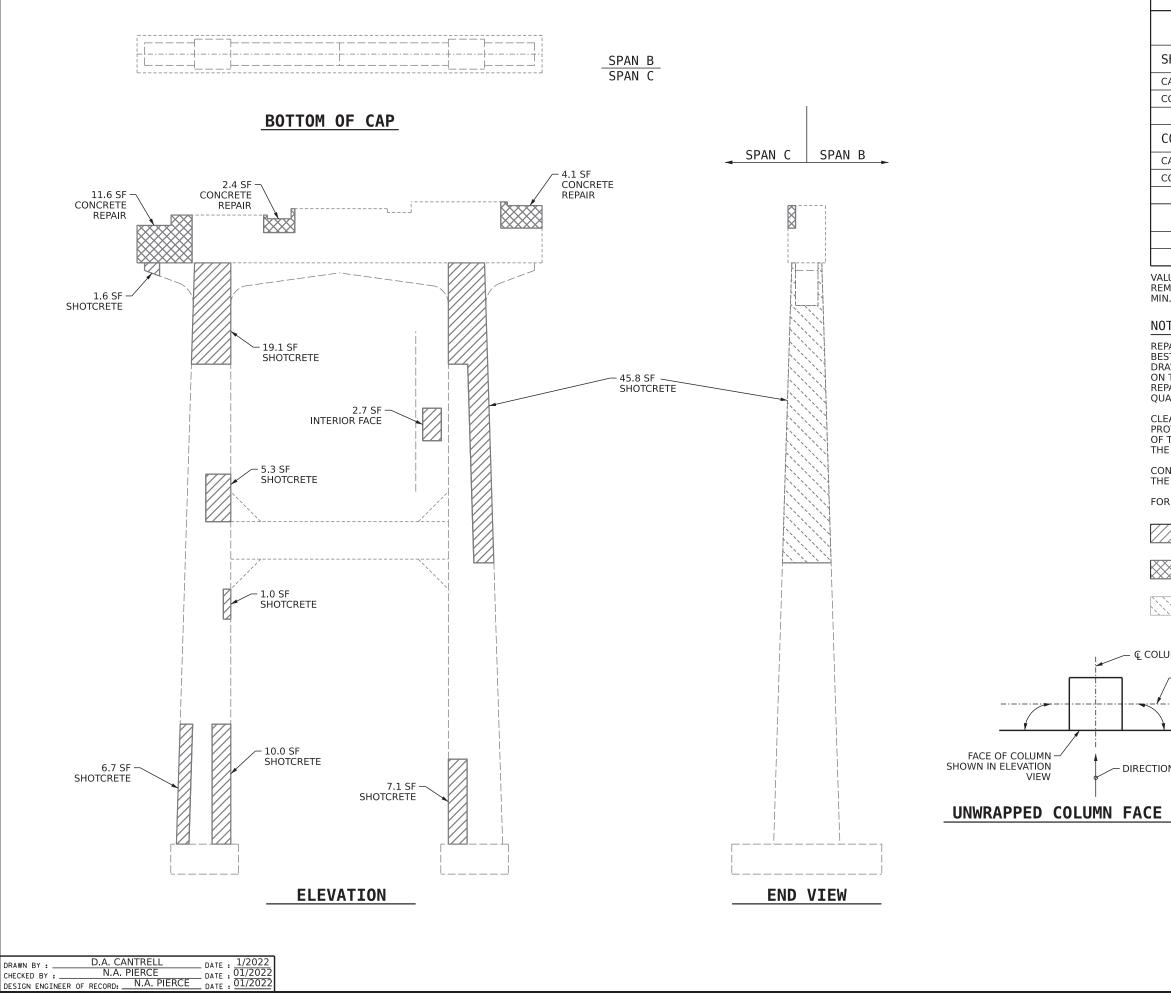
COUNTY

PROJECT NO. 41665.14B

MCDOWELL

SUBSTRUCTURE REPAIRS BENT 2 SPAN B FACE

DocuSigned by: <i>Richolas Pierce</i> 15110B434D0B485	SPAN B FACE				
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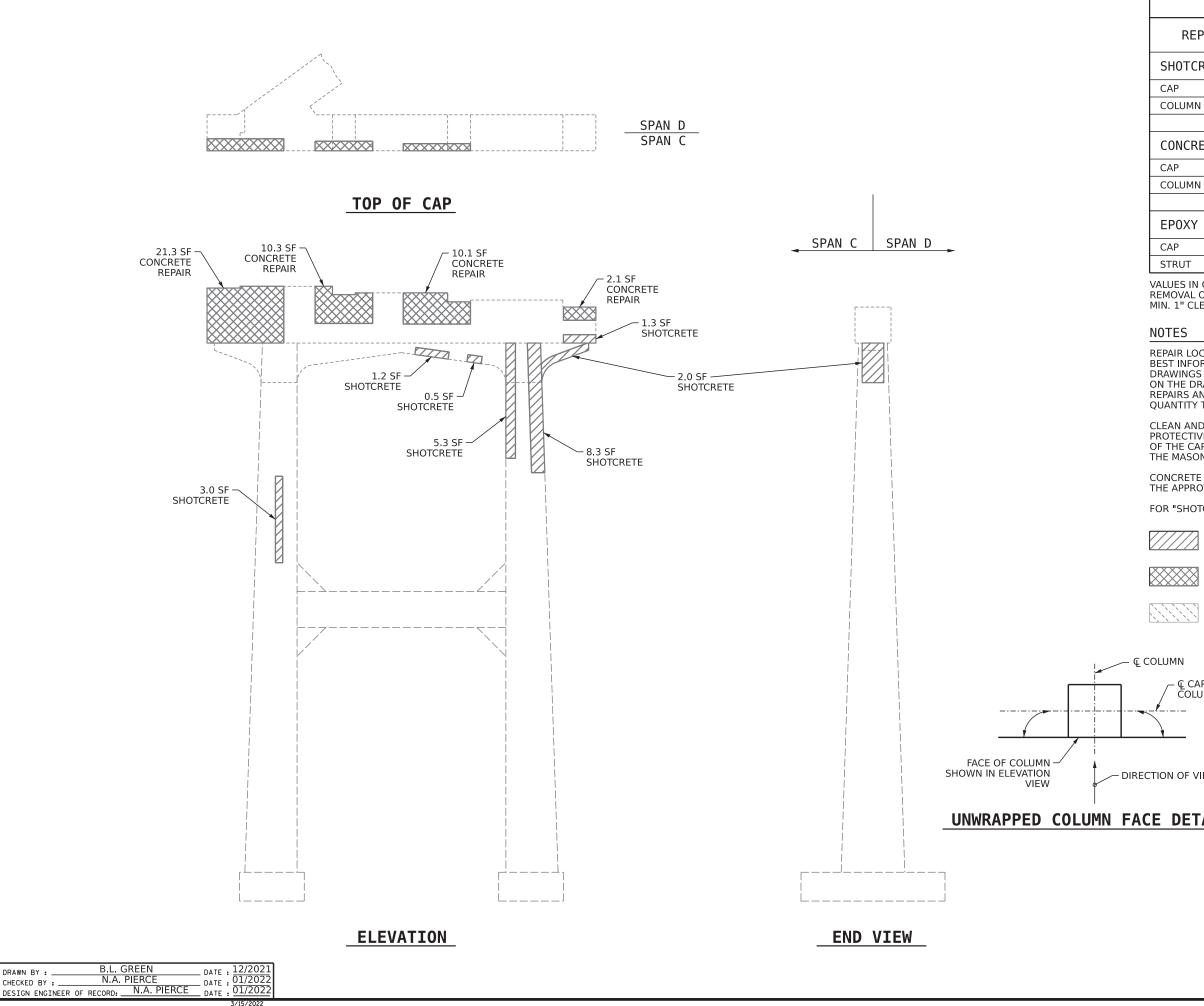
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AS-BUILT R	EPAIR QU	JANTITY	TABLE	
	• -	QUAN		
REPAIRS - BENT 2	EST	IMATE		TUAL
SHOTCRETE REPAIRS	AREA	VOLUME CF	AREA SF	VOLUME CF
САР	0	0		
COLUMN	99.3	152.3		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
САР	18.2	9.1		
COLUMN	0	0		
LUES IN CHART REPRESENT ESTI MOVAL OF UNSOUND CONCRETE N. 1" CLEAR TO SAWCUT. SEE RE	, MIN. OF 1" BEI		ND	
DTES				
PAIR LOCATIONS AND ESTIMATE ST INFORMATION AVAILABLE. IF WINGS ARE DEEMED NECESSAI I THE DRAWINGS THE APPROXIM, PAIRS AND ENTER THE ACTUAL O JANTITY TABLE. EAN AND REMOVE DEBRIS FROM OTECTIVE COATING. EPOXY COA THE CAP. THE CONTRACTOR S	ADDITIONAL RE RY BY THE ENGIN ATE LOCATION A QUANTITIES INTO THE TOP OF TH TING SHALL BE	PAIRS NOT SH NEER, THE ENO ND DESCRIPTI O THE AS-BUIL E CAP AND AP APPLIED TO TH	OWN ON TH GINEER SHA ON OF THE F REPAIR PLY EPOXY HE TOP SURI	E LL NOTE FACE
E MASONRY PLATES. FOR EPOXY	COATING, SEE	SPECIAL PROV	ISIONS.	
E APPROVAL OF THE ENGINEER.	TOTED IN LIEU C	JI SHOTCKETE	. NEFAINS W	
R "SHOTCRETE REPAIRS", SEE SF	PECIAL PROVISIC	NS.		
SHOTCRETE REPAIR /	AREA			
CONCRETE REPAIR A	REA			
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UMN				
│─ Ç CAP & │ COLUMN				
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	BRIDGE NO. 580032	
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WATH CAROLAN	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATIO RALEIGH	ЭN
SEAL 037479 MGNC Docusioned by: Picholes Pierce 15110B43400B455.	SUBSTRUCTURE REPAIR BENT 2 SPAN C FACE	١S
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AS-BUILT REPAIR QUANTITY TABLE QUANTITIES **REPAIRS - BENT 3** ESTIMATE ACTUAL AREA VOLUME AREA VOLUME SHOTCRETE REPAIRS SF CF SF CF 5.0 2.5 16.6 8.3

CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
САР	43.8	30.8		
COLUMN	0	0		
EPOXY COATING		AREA SF		AREA SF
САР		84.4		
STRUT		45.3		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

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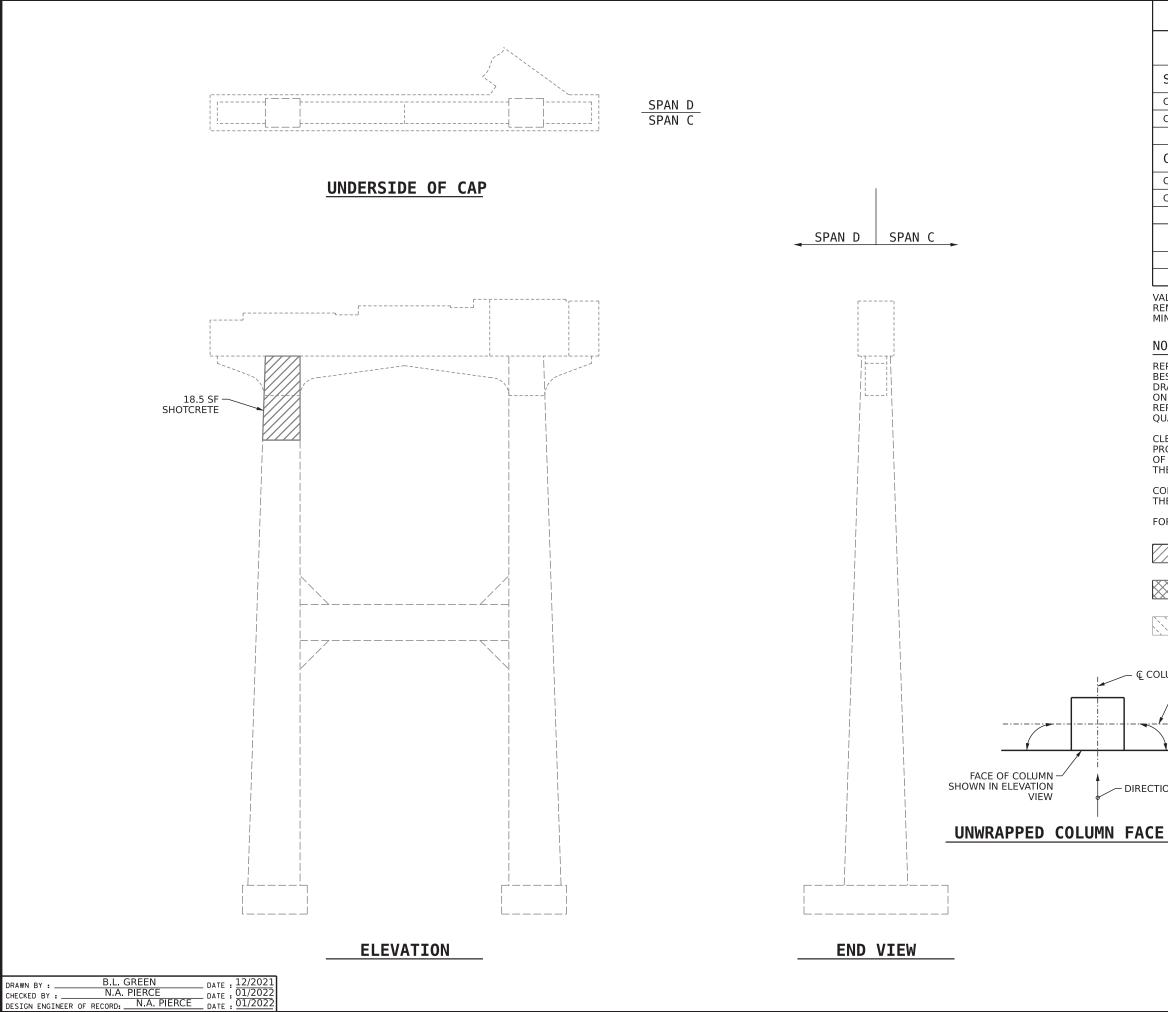
SHOTCRETE REPAIR AREA

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CONCRETE REPAIR AREA

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<u> </u>	PROJECT NO. <u>41665.14B</u>
ON OF VIEW	MCDOWELL COUNTY
	BRIDGE NO. <u>580032</u>
DETAIL	SHEET 6 OF 14
DETTIL	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
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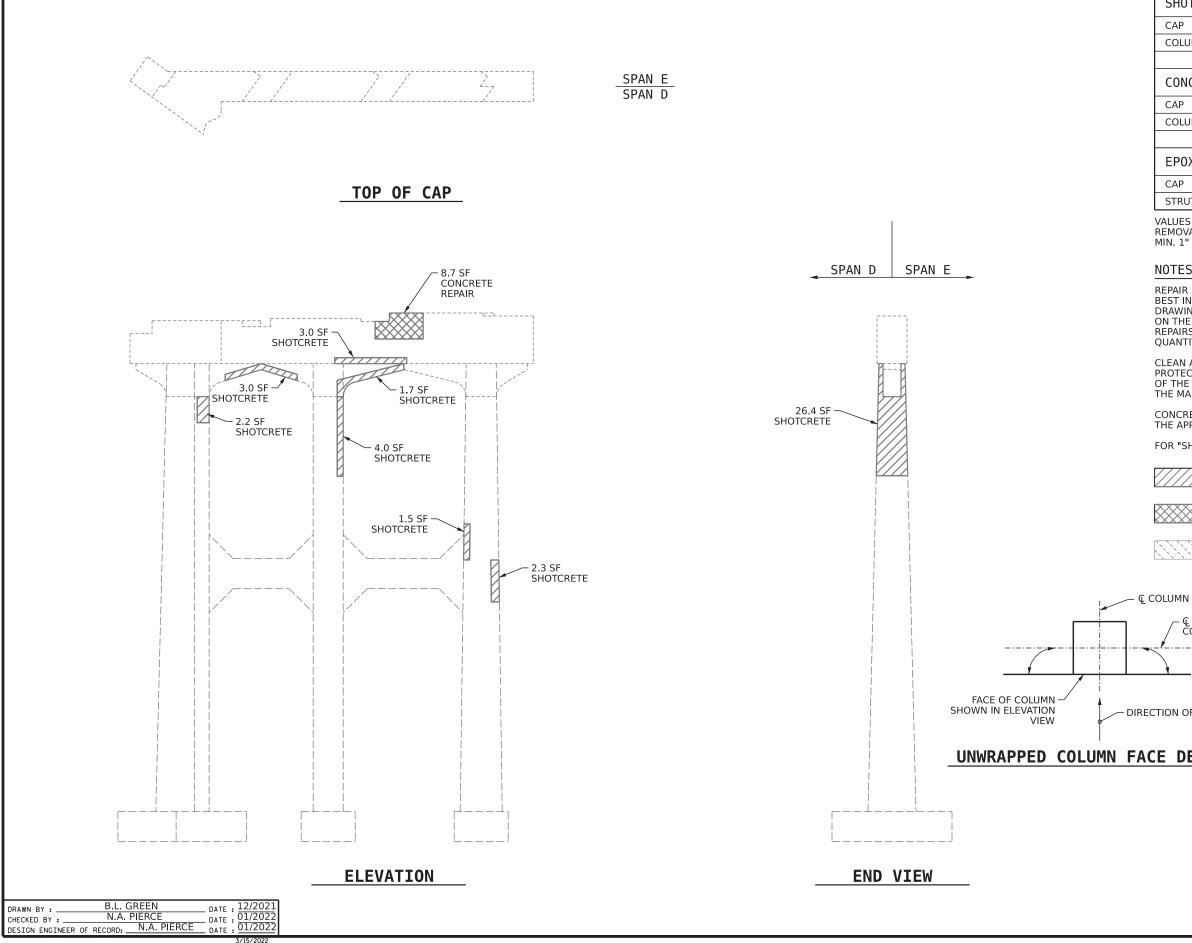


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AS-BUILT REF	PAIR QU	ANTITY	TABLE	
		QUAN	TITIES	
REPAIRS - BENT 3	ESTI	MATE	ACT	UAL
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
САР	0	0		
COLUMN	18.5	9.2		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
САР	0	0		
COLUMN	0	0		
LUES IN CHART REPRESENT ESTIMA MOVAL OF UNSOUND CONCRETE, M N. 1" CLEAR TO SAWCUT. SEE REPA	IIN. OF 1" BEH		ND	
DTES				
PAIR LOCATIONS AND ESTIMATE OF ST INFORMATION AVAILABLE. IF AD AWINGS ARE DEEMED NECESSARY N THE DRAWINGS THE APPROXIMATE PAIRS AND ENTER THE ACTUAL QUA JANTITY TABLE.	DITIONAL REF BY THE ENGIN E LOCATION AN	AIRS NOT SH EER, THE ENO ND DESCRIPTI	OWN ON THE GINEER SHAL ON OF THE	
EAN AND REMOVE DEBRIS FROM TH OTECTIVE COATING. EPOXY COATIN THE CAP. THE CONTRACTOR SHAI IE MASONRY PLATES. FOR EPOXY CO	IG SHALL BE A	APPLIED TO TH	HE TOP SURF	
DNCRETE REPAIRS MAYBE SUBSTITU IE APPROVAL OF THE ENGINEER.	,			ТН
R "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.				
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AS-BUILT REPAIR QUANTITY TABLE QUANTITIES **REPAIRS - BENT 4** ESTIMATE ACTUAL AREA VOLUME AREA VOLUME SHOTCRETE REPAIRS SF CF SF CF CAP 7.7 3.8 COLUMN 36.4 18.6 AREA VOLUME AREA VOLUME CONCRETE REPAIRS SE CF SE CF CAP 8.7 4.3 COLUMN 0 0 AREA AREA EPOXY COATING SF SF CAP 120.6 STRUT 54.2

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

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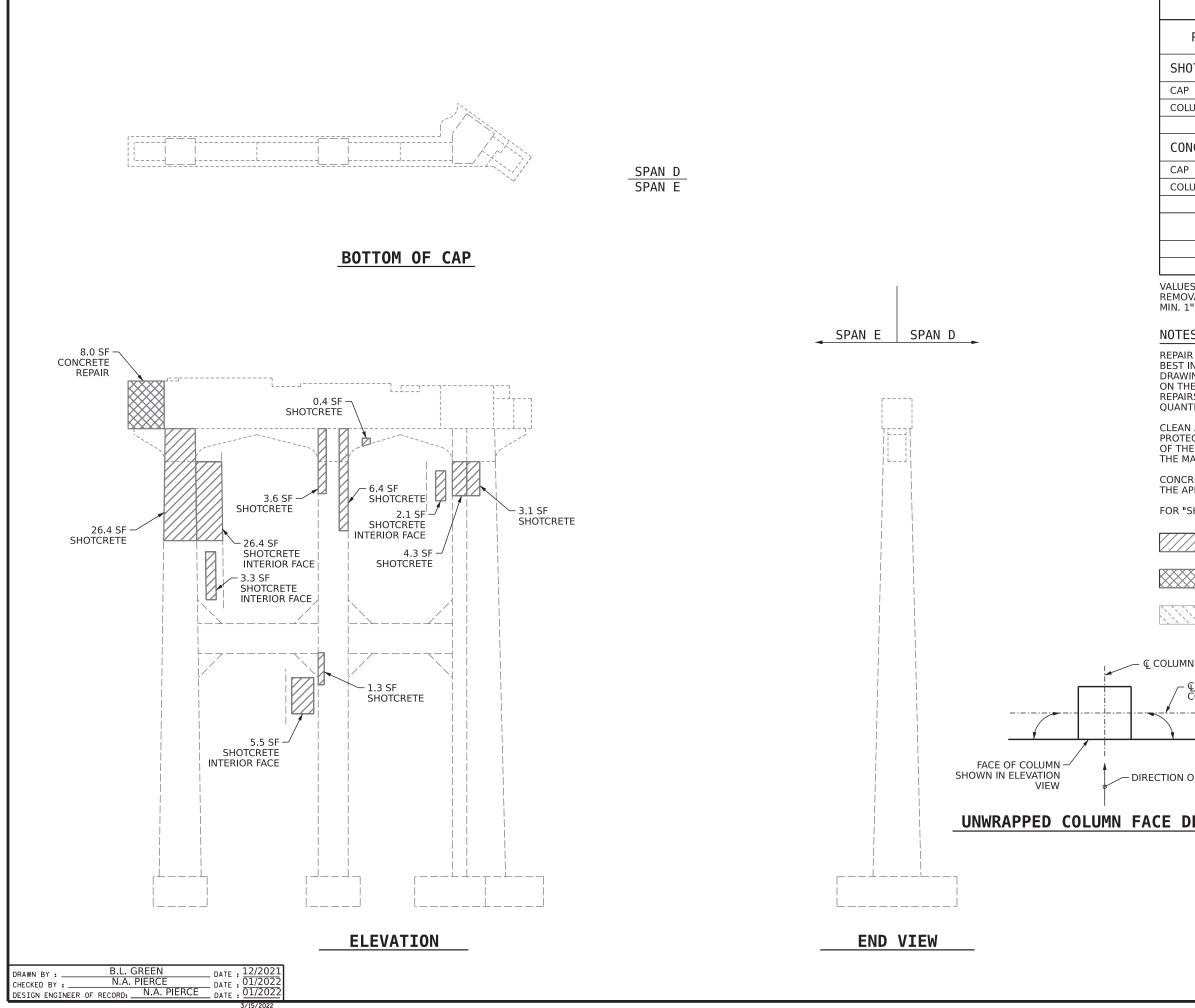
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SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

CAP & COLUMN

	PROJECT NO. 41665.14B MCDOWELL COUNTY
DN OF VIEW	BRIDGE NO. 580032
DETAIL	SHEET 8 OF 14
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AS-BUILT REP	AIR QU	ANTITY	TABLE		
REPAIRS - BENT 4		QUAN	TITIES		
REPAIRS - DENI 4	ESTI	MATE	ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
CAP	0.4	0.2			
COLUMN	82.4	42.3			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
CAP	8.0	4.0			
COLUMN	0	0			
LUES IN CHART REPRESENT ESTIMAT MOVAL OF UNSOUND CONCRETE, MI N. 1" CLEAR TO SAWCUT. SEE REPAII	N. OF 1" BEH		ND		

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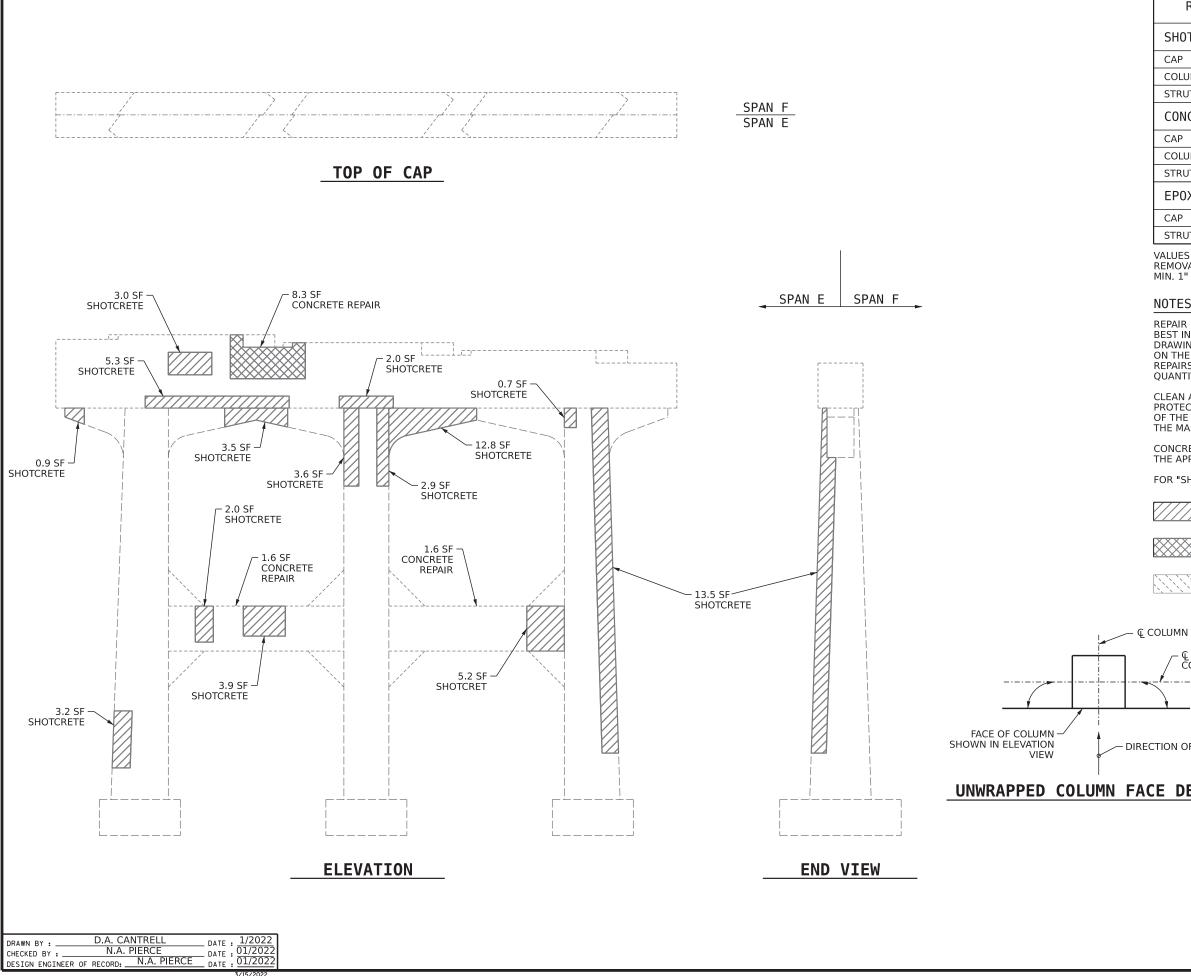
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SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

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/	COLUMN	

	PROJECT NO. 41665.14B MCDOWELL COUNTY
DN OF VIEW	BRIDGE NO. 580032
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SIGNATURES COMPLETED	2 4 34



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AS-BUTLT REPATE QUANTITY TABLE

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REPAIRS - BENT 5	QUANTITIES				
REPAIRS - BENT 5	ESTI	MATE	ACT	UAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
САР	28.8	14.4			
COLUMN	29.5	19.3			
STRUT	11.1	5.5			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
САР	8.3	4.2			
COLUMN	0	0			
STRUT	3.2	1.6			
EPOXY COATING		AREA SF		AREA SF	
САР		107.8			
STRUT		121.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

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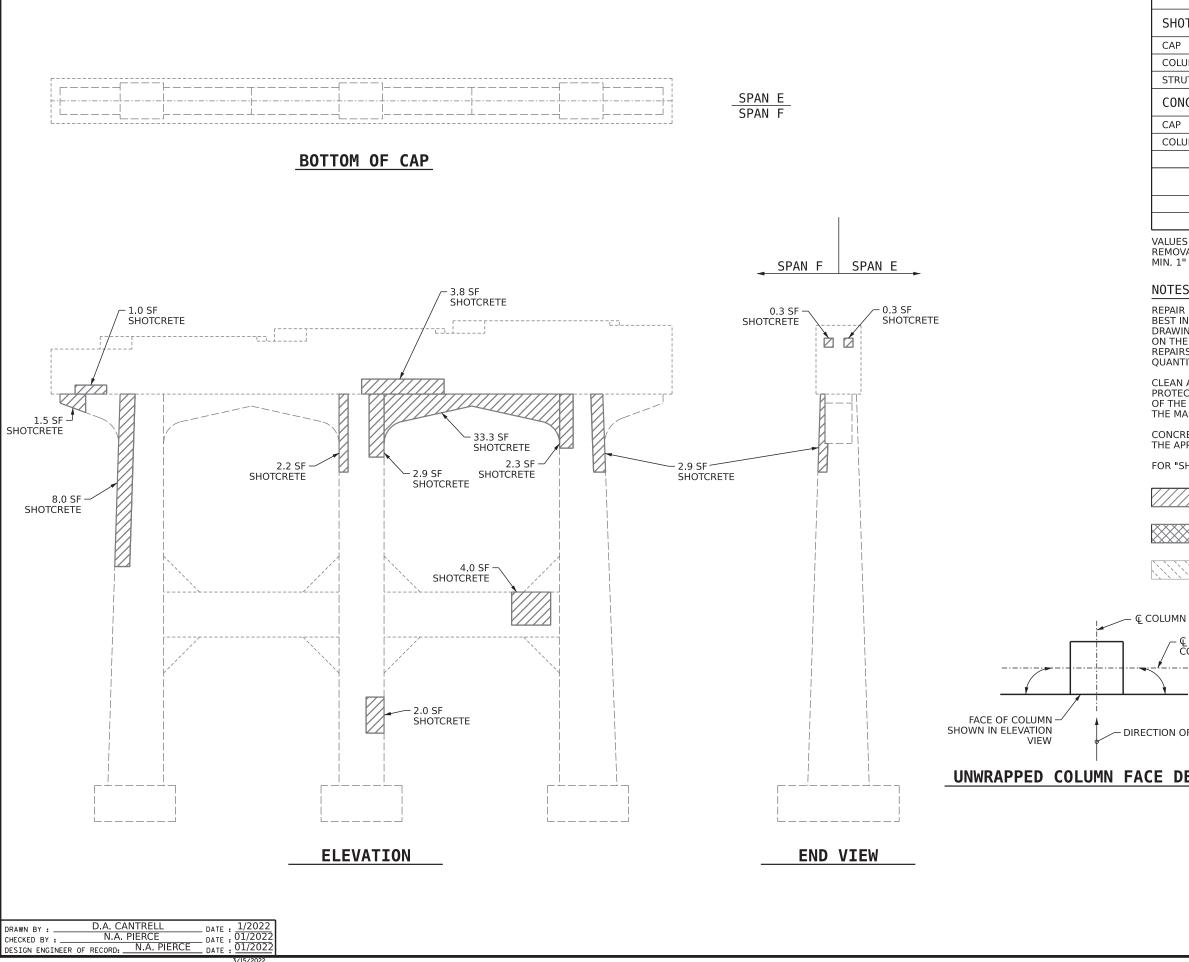
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SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

_	Ç CAP &	
/	COLUMN	

DN OF VIEW	PROJECT NO. <u>41665.14B</u> <u>MCDOWELL</u> COUNTY
IN OF VIEW	BRIDGE NO. 580032
DETAIL	SHEET 10 OF 14
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SEAL O37479	SUBSTRUCTURE REPAIRS BENT 5
Nicholas Pierce	SPAN E FACE
	REVISIONS SHEET NO.
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SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

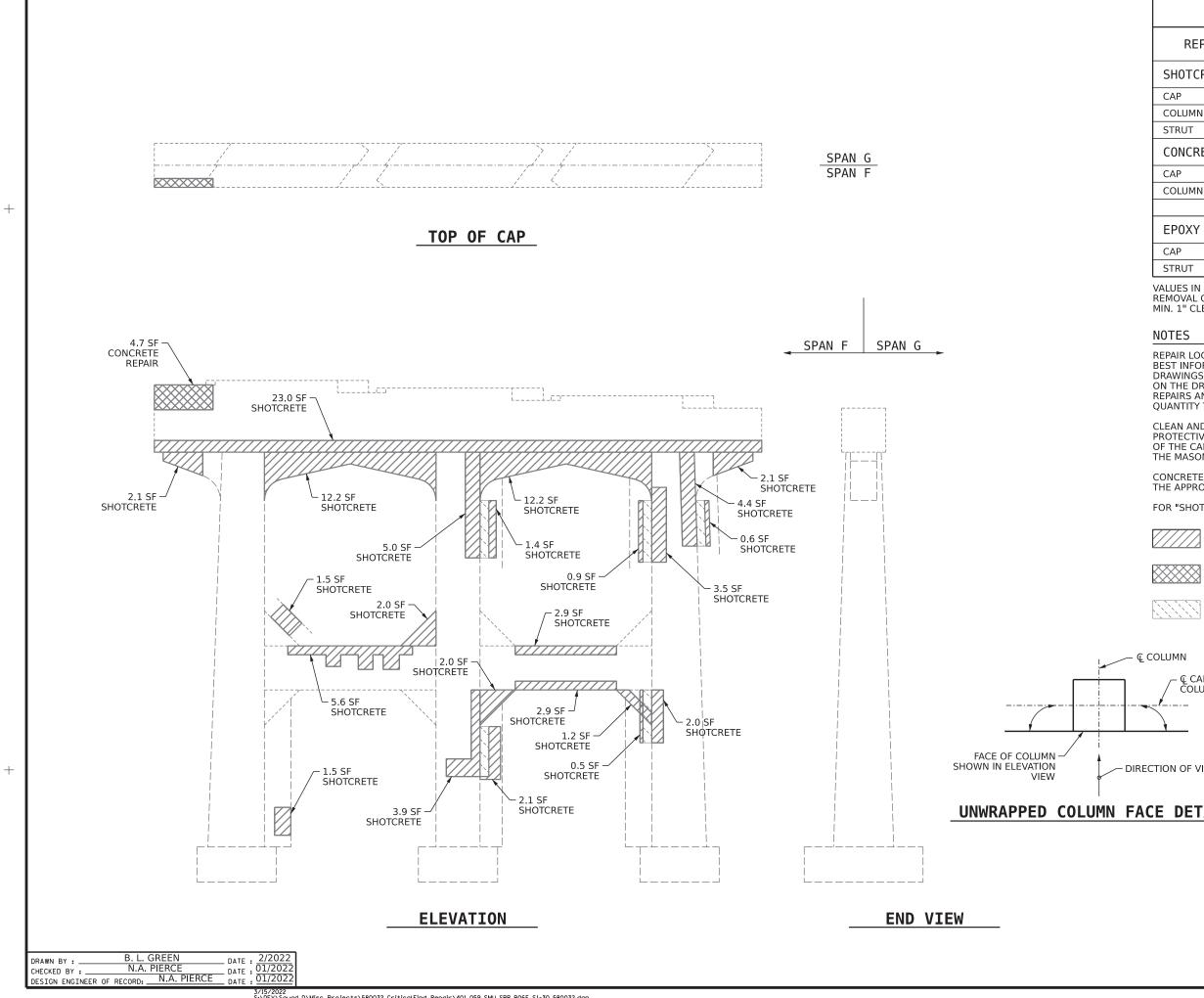
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS - BENT 5	QUAN	QUANTITIES			
REPAIRS - BENT 5	ESTII	MATE	ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
САР	40.1	20.1			
COLUMN	20.2	10.4			
STRUT	4.0	2.0			
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
CAP	0	0			
COLUMN	0	0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

_	Ç CAP &	
/	COLUMN	

DN OF VIEW	PROJECT NO. <u>41665.14B</u> <u>MCDOWELL</u> COUNTY BRIDGE NO. <u>580032</u>
DETAIL	SHEET 11 OF 14
DETAIL	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
SEAL O37479	SUBSTRUCTURE REPAIRS BENT 5 SPAN F FACE
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	REVISIONS SHEET NO. NO. BY: DATE: NO. BY: DATE: S1-29
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL	1 3 TOTAL SHEETS
SIGNATURES COMPLETED	2 4 34



5/15/2022 St/DEV/Squad_D/Misc Projects/580032_CriticalFind Repair/401_059_SMU_SBR_B06F_S1-30_580032.dgn napierce

AS-BUILT REPAIR OUANTITY TABLE

		IADEE			
QUANTITIES					
ESTI	MATE	ACTUAL			
AREA SF	VOLUME CF	AREA SF	VOLUME CF		
51.6	42.8				
25.8	21.5				
17.8	14.8				
AREA SF	VOLUME CF	AREA SF	VOLUME CF		
4.7	2.4				
0	0				
	AREA SF		AREA SF		
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VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

CONCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

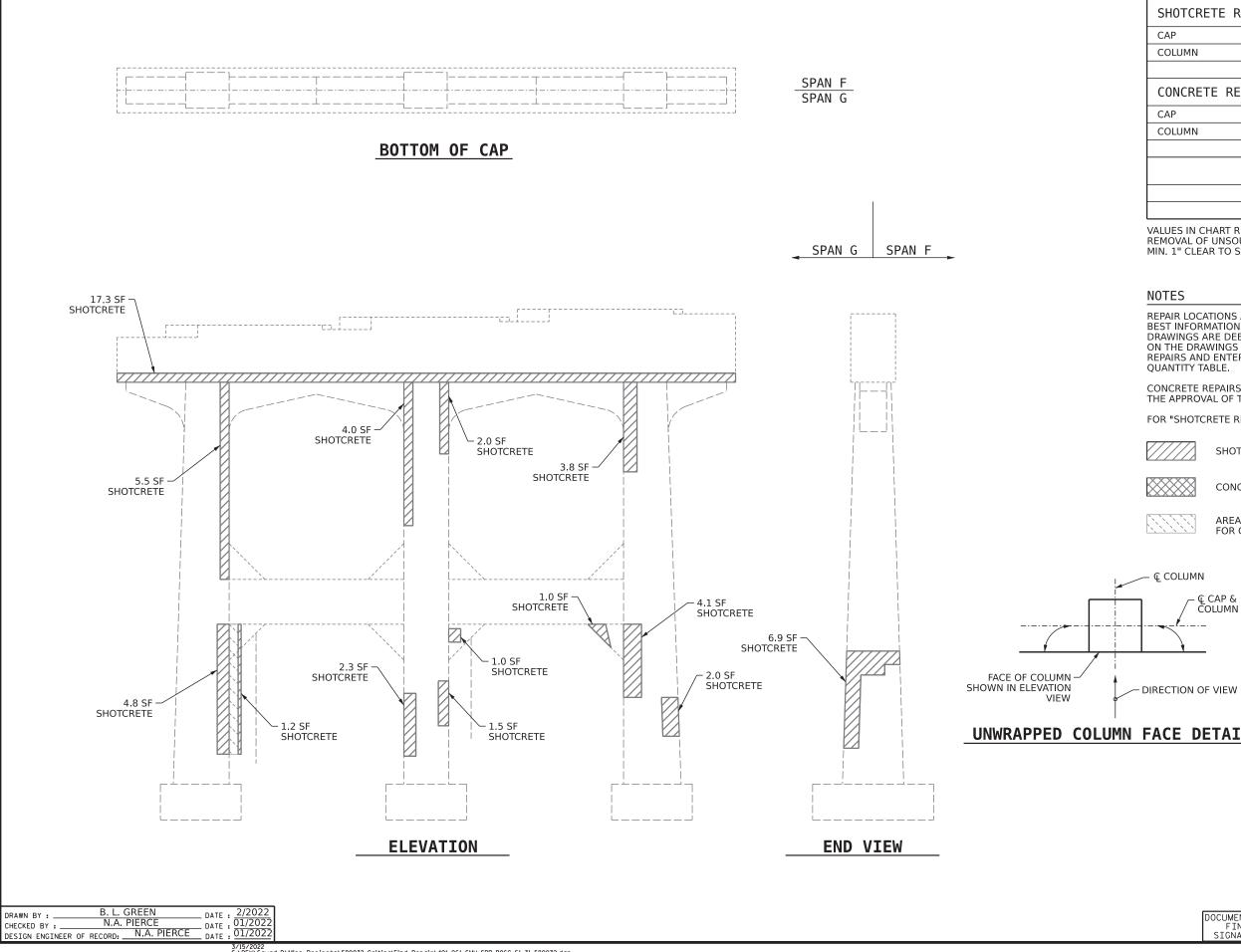
SHOTCRETE REPAIR AREA

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CONCRETE REPAIR AREA

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	L CHI G	
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<u>}</u>	PROJECT NO. 41665.14B
	MCDOWELL COUNTY
ON OF VIEW	BRIDGE NO. 580032
DETAIL	SHEET 12 OF 14
DETRIE	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
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03/15/2022	REVISIONS SHEET NO.
DOCUMENT NOT CONSIDERED	NO. BY: DATE: NO. BY: DATE: S1-30
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VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

AS-BUILT REP	AIR QU	ANTITY	TABLE	
		QUANT	TITIES	
REPAIRS - BENT 6	ESTI	MATE	ACT	UAL
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
САР	17.3	8.7		
COLUMN	40.1	20.1		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
САР	0	0		
COLUMN	0	0		
ALUES IN CHART REPRESENT ESTIMAT	ED REPAIR T	OTALS AFTER		

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR

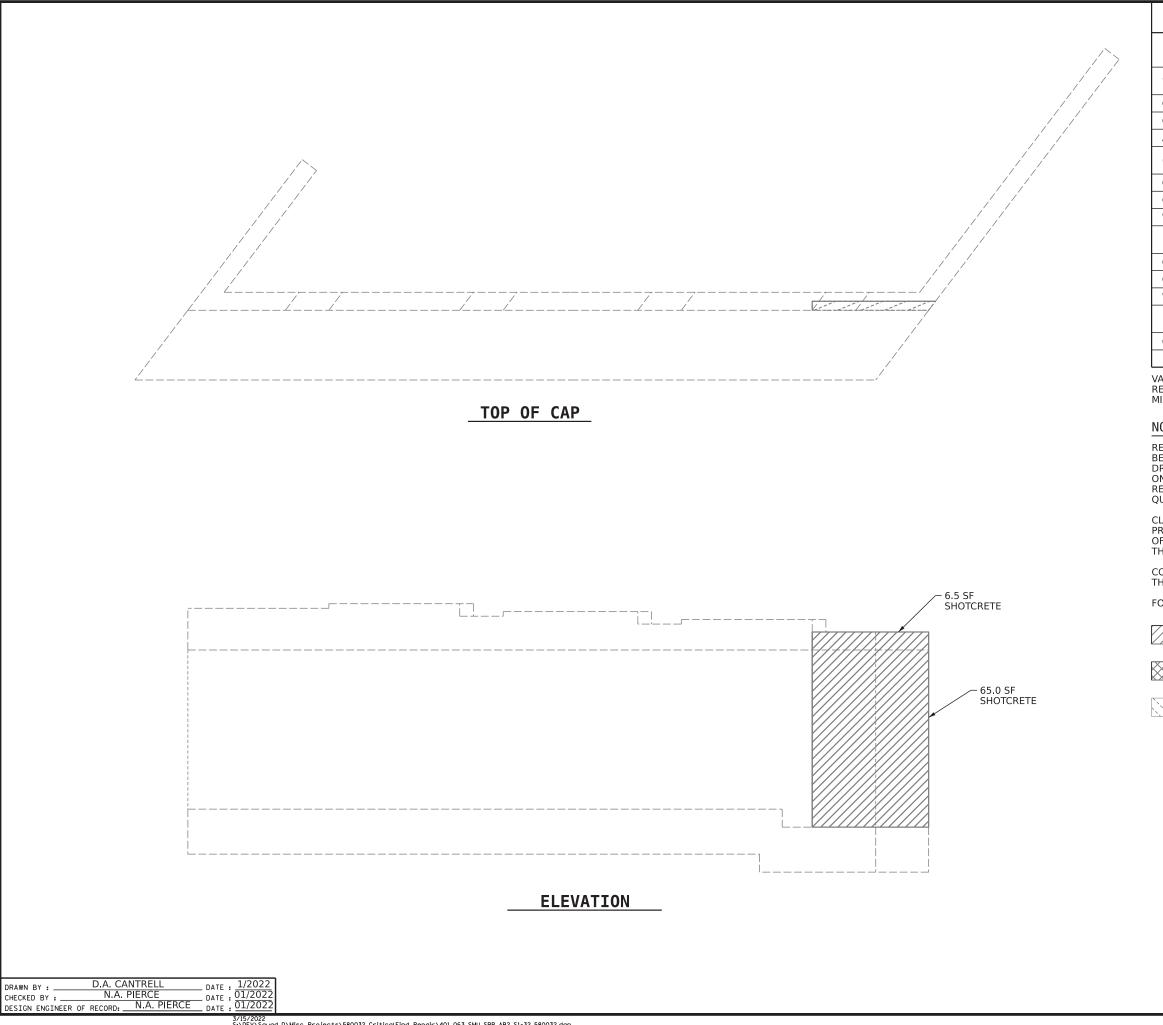
CONCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

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CE DETAIL	BRIDGE	NO	5	80032	
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AS-BUILT REP	AIR QU	ANTITY	TABLE			
REPAIRS - ABUTMENT 2						
REPAIRS - ADUIMENT 2	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP	6.5	3.3				
CURTAIN WALL	0	0				
ABUTMENT WALL	65.0	32.5				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP	0	0				
CURTAIN WALL	0	0				
WINGWALL						
EPOXY RESIN INJECTION		LINEAR FT		LINEAR FT		
CAP		0				
CURTAIN WALL		0				
WINGWALL						
EPOXY COATING		AREA SF		AREA SF		
САР		42.0				

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 1" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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FOR "SHOTCRETE REPAIRS", SEE SPECIAL PROVISIONS.



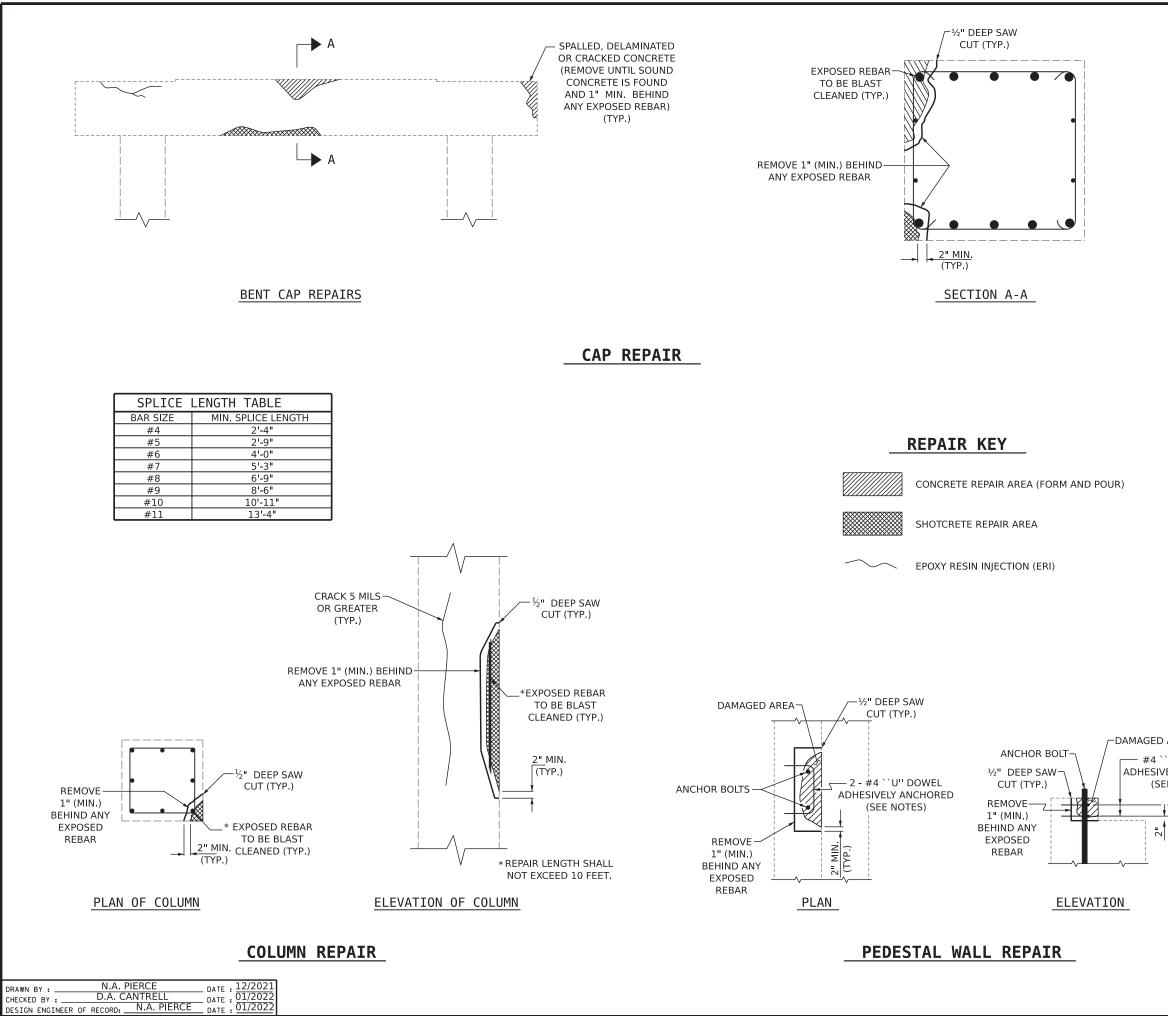
SHOTCRETE REPAIR AREA



CONCRETE REPAIR AREA



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		MCDOW			DUNTY	
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
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NOTES

TYPICAL BENT CAP REPAIRS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

THE METHOD USED TO DELINEATE THE AREAS OF UNSOUND CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT.

NO MORE THAN ONE-THIRD OF THE CAP OR COLUMN CROSS SECTIONAL AREA SHALL BE REMOVED AT ONE TIME. SHOULD IT BECOME NECESSARY TO REMOVE MORE THAN 30% OF A CAP OR COLUMN CROSS SECTIONAL AREA, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 1½" BEHIND THE MAIN REINFORCING BARS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

REINFORCING STEEL WHICH IS DETERMINED BY THE ENGINEER TO BE REPLACED, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE REPAIR AREA SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

THE #4 "U" DOWELS ARE REQUIRED ONLY AROUND THE ANCHOR BOLTS. THE EXISTING REINFORCING STEEL IN THE PEDESTAL WALL SHALL BE CLEANED, STRAIGHTENED AND REMAIN IN PLACE.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

COAT ALL REPAIR SURFACE AREAS ON THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY PROTECTIVE COATING, OVERLAPPING THE REPAIR AREA BY A MINIMUM OF 3" ON ALL POSSIBLE SIDES

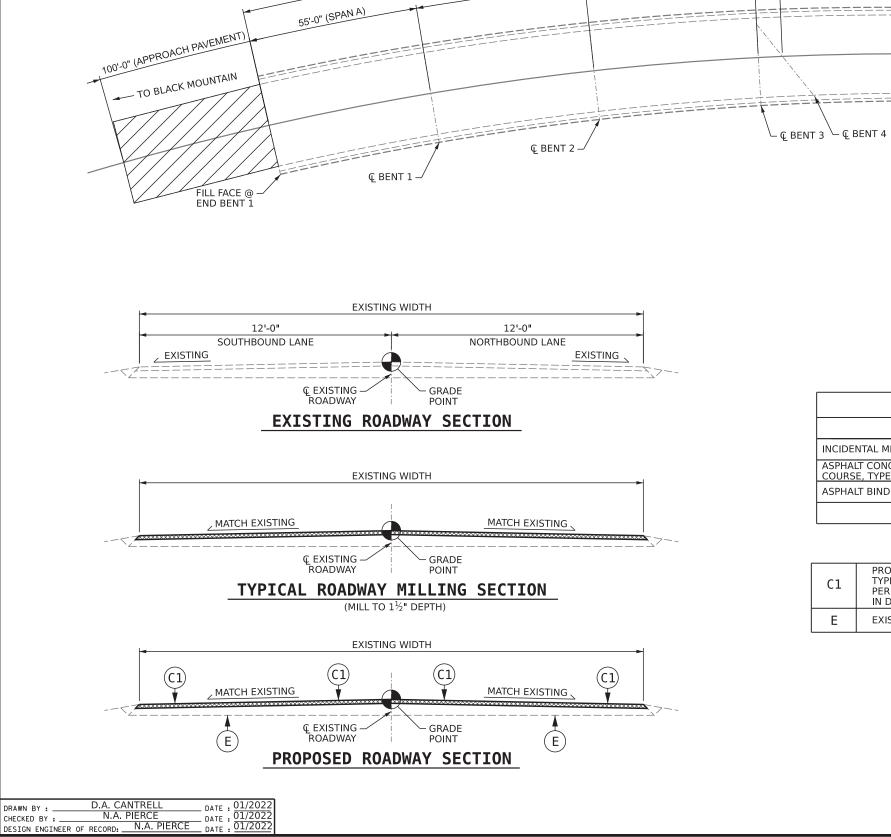
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION (ERI), SEE SPECIAL PROVISIONS.

AREA U'' DOWEL ELY ANCHORED E NOTES) 	_	Ν	T NO. 1 CDOW I NO	ELL	5 65.1 4 CO 80032	4B UNTY
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55'-0" (SPAN B)

SUMMARY OF QUANTITIES			
	ESTIMATE	ACTUAL	
INCIDENTAL MILLING	667.0 SQ.YDS.		
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	60.0 TONS		
ASPHALT BINDER FOR PLANT MIX	5.0 TONS		

42'-6" (SPAN F)

C BENT 5

© ВЕNТ 6 –

330'-6" (FILL FACE TO FILL FACE)

55'-0" (SPAN C)

8'-0" (SPAN D)

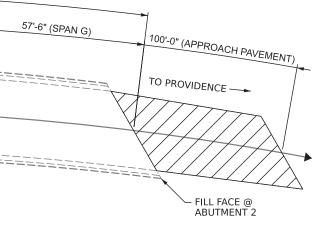
57'-6" (SPAN E)

C1	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.		PROJECT NO. <u>41665.14B</u> <u>MCDOWELL</u> COUNTY
E	EXISTING PAVEMENT		BRIDGE NO. 580032
		LUMIN CARO	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
		SEAL 037479 UCNC Doculored by Prictodes Presse	INCIDENTAL MILLING AND TYPICAL ROADWAY SECTIONS
		15110B434D0B485 03/15/2022	REVISIONS SHEET NO.
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NOTES

INCIDENTAL MILLING - EXISITNG ASPHALT ON APPROACH PAVEMENT TO BE MILLED TO ACHIEVE SMOOTH TRANSITION WITH BRIDGE DECK WHICH WILL HAVE (~4" \pm) REMOVED.



STANDARD NOTES

DESIGN DATA:

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SPECIFICATIONS	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS.PER SQ.IN.
- AASHTO M270 GRADE 50W	27,000 LBS.PER SQ.IN.
- AASHTO M270 GRADE 50	27,000 LBS.PER SQ.IN.
REINFORCING STEEL IN TENSION - GRADE 60	24,000 LBS.PER SO.IN.
CONCRETE IN COMPRESSION	1,200 LBS.PER SO.IN.
CONCRETE IN SHEAR	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	1,800 LBS.PER SQ.IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS.PER SQ.IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS.PER CU.FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUITMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾ "WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½ "RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼ "FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A ¼ "RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12"INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS, IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER, WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS, DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE $\frac{1}{6}$ " \varnothing SHEAR STUDS FOR THE $\frac{3}{4}$ " \varnothing STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - $\frac{1}{6}$ " \varnothing STUDS FOR 4 - $\frac{3}{4}$ " \varnothing STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF $\frac{1}{6}$ " \varnothing STUDS ALONG THE BEAM AS SHOWN FOR $\frac{3}{4}$ " \varnothing STUDS DON THE RATIO OF 3 - $\frac{1}{6}$ " \varnothing STUDS FOR 4 - $\frac{3}{4}$ " \varnothing STUDS FOR 4 - $\frac{3}{4}$ " \varnothing STUDS BASED ON THE RATIO OF 3 - $\frac{1}{6}$ " \varnothing STUDS FOR 4 - $\frac{3}{4}$ " \varnothing STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST % IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES,ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

SPECIAL NOTES:

SPECIFICATIONS ARTICLE 105-4.

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL DECODE CONTINUE DEPOLY AND FOUNDED FOR UTTOR CONDUCT AND POCKS NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE

ENGLISH JANUARY, 1990